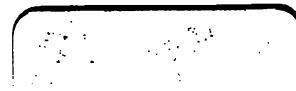

THE

STUDENT'S INSTRUCTOR

IN DRAWING AND WORKING

THE FIVE ORDERS

OF

ARCHITECTURE.

FULLY EXPLAINING THE BEST METHODS FOR

STRIKING REGULAR AND QUIRKED MOULDINGS; FOR DIMINISHING AND GLUEING OF COLUMNS AND CAPITALS; FOR FINDING THE TRUE DIAMETER OF AN ORDER TO ANY GIVEN HEIGHT; FOR STRIKING THE IONIC VOLUTE, CIRCULAR OR ELLIPTICAL;

WITH

FINISHED EXAMPLES,

ON A LARGE SCALE,

OF

THE ORDERS, THEIR PLANCEERS, &c.

AND SOME

DESIGNS FOR DOOR-CASES,

ELEGANTLY ENGRAVED ON FORTY-ONE PLATES,

WITH EXPLANATIONS.

BY PETER NICHOLSON, ARCHITECT.

AUTHOR OF THE CARPENTER'S NEW GUIDE, CARPENTER AND JOINER'S ASSISTANT, &c.

THE FIFTH EDITION,

CONSIDERABLY AUGMENTED AND IMPROVED.

London:

PRINTED FOR J. TAYLOR,

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1823.

PREFACE.

THE following Treatise will be found particularly useful to Students in Architecture. It contains a complete developement of the methods of drawing and working the five orders, which may be said to be the foundation, the very ABC of the art of building: as from these, with their several proportions and variations, arises all that is great, elegant, or harmonious in the noblest structure; wherefore I most earnestly recommend to the student, to obtain a thorough knowledge of every order, its parts, proportions, and entire figure, as being absolutely necessary to ALL who aspire to eminence in this profession.

To this purpose the following work is well adapted, and gives in the most detailed and accurate manner, examples of the five orders, their proportions and enrichments, according to the present taste; which are so completely explained by the lines, and the measurement on the plates, that a little attention will enable every person readily to comprehend the proportion, use, and situation of each member: and also the several methods adopted in calculating the parts, and for setting them off on rods for practice, to any scale. The manner of drawing them on paper is fully explained, and I must here advise the student to make a diligent practice of drawing the outlines to a large

scale, so that the measures may apply with accuracy, before he proceeds to finish in shading; by so doing, he will acquire a facility of manner, and an accuracy of eye in judging of the beauties of proportion, which will ever be of essential use to him.

The explanation of the Tuscan order is given very full, and as the same methods apply to each of the other orders, they are not repeated. It is scarcely necessary to observe, the height of the several columns is given according to the most esteemed masters; nevertheless they may with much propriety be varied, to suit particular purposes or situations.

The method of describing quirked mouldings is new and easy, for practice, for any swell. I have shewn a new method for striking the Ionic volute, which will produce that spiral curve with more elegance and regularity in the sweep, than by any other method I have seen.

That important branch of practice, glueing up of columns and capitals, is shewn in a new and accurate manner, easy to be understood. I have also shewn new and easy methods for diminishing of columns, and for marking the flutes and fillets on them and on pilasters; which, with various other interesting matters, will, I hope, make the operative parts of the orders better understood, both in theory and in practice, than by any former publication.

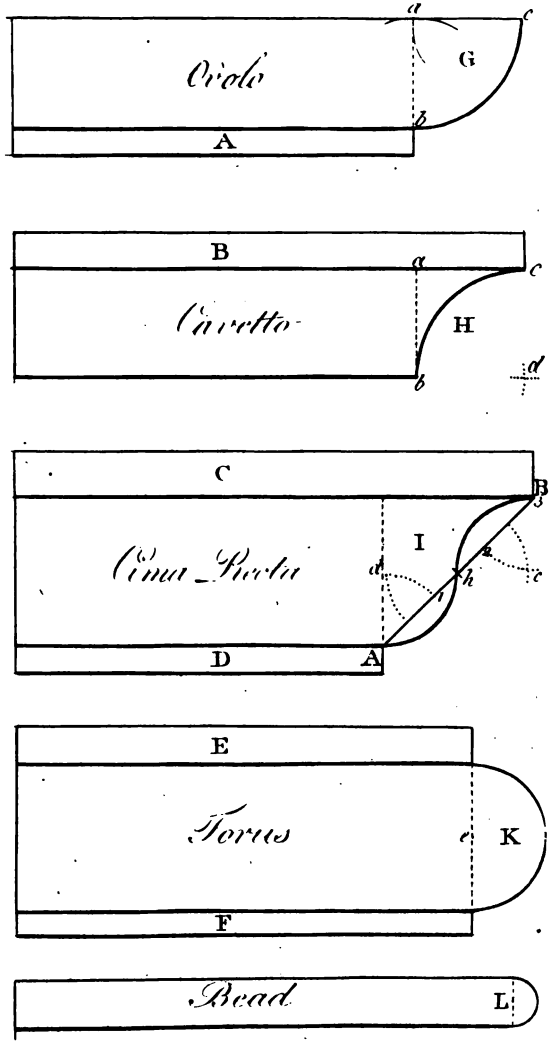
PREFACE

TO

THE THIRD EDITION.

THE usefulness of this little volume has been fully proved by the great numbers which have been sold: a new Edition being now called for, I have examined the work throughout, and have made such corrections and additions, as appeared to be necessary to adapt it to the prevailing style of architecture: to this purpose I have given a new plate containing a variety of *Modern Mouldings*, also six new ones of *Antique Doric Capitals* and entablatures, with the parts at large and in detail: so that in this small work every member of these specimens of ancient magnificence is equally clear and distinct, as in the large work of the original author; and as I have reduced the proportions to the modular scale, they are more easily put in practice. Upon the whole, it will be found

that the Greek Doric which has of late been so much in vogue, is fully explained and elucidated: I have also given an example of a chaste and noble Ionic Capital; all these are selected from Stuart's elegant and interesting work on the Antiquities of Athens; the other new plates are an outline of the Composite Capital for the use of learners, and an antique Ionic Door case, proper to be drawn from or worked. These additions, on ten new plates, with various corrections in the descriptions, render this edition more complete and useful; and I think there is now nothing wanting to constitute it a complete introduction to the orders of architecture both ancient and modern.



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EXPLANATIONS, &c.

PLATE I.

TO DESCRIBE THE SEVERAL KINDS OF MOULDINGS.

TO describe an Ovolo, take the height *a b;* set the compasses in *b,* describe an arc, and with the same distance on the projection at *c,* describe an arc cutting the former at *a,* then on *a,* as a centre, describe an arc *b c,* and the ovolo will be completed.

To describe a Cavetto, on *b,* with the height *a b;* describe an arc on the projection at *c,* with the same distance describe another arc cutting the former at *d;* then with the same extension on *d,* describe the arc *b c,* and it will be a cavetto.

To describe a Cima Recta, join the projections at each end by the right line A B, divide it into two equal parts at *h,* and in order to make it look bold, divide A B into three equal parts, or nearly so, and with one third, on A and *h* as centres, describe arcs, cutting each other at *d;* and in the same manner find the intersection, on the opposite side of the line at *c;* lastly on *d,* and *c,* describe the arcs A *h,* and *h* B, and it will form the cima recta required.

To describe the Torus, divide the height into two equal parts at *e,* and on *e,* as a centre, describe a semicircle to that height; and it will form a torus.

The *Bead* is formed as the Torus.

Note, These are the forms of regular mouldings, *viz.* the height equal to the projection: but there are other forms, where the projection is often less than the height, and the curvature of the moulding much flatter; however the same methods for describing the one, will do for the other.

PLATE II.

MODERN OR QUIRKED MOULDINGS.

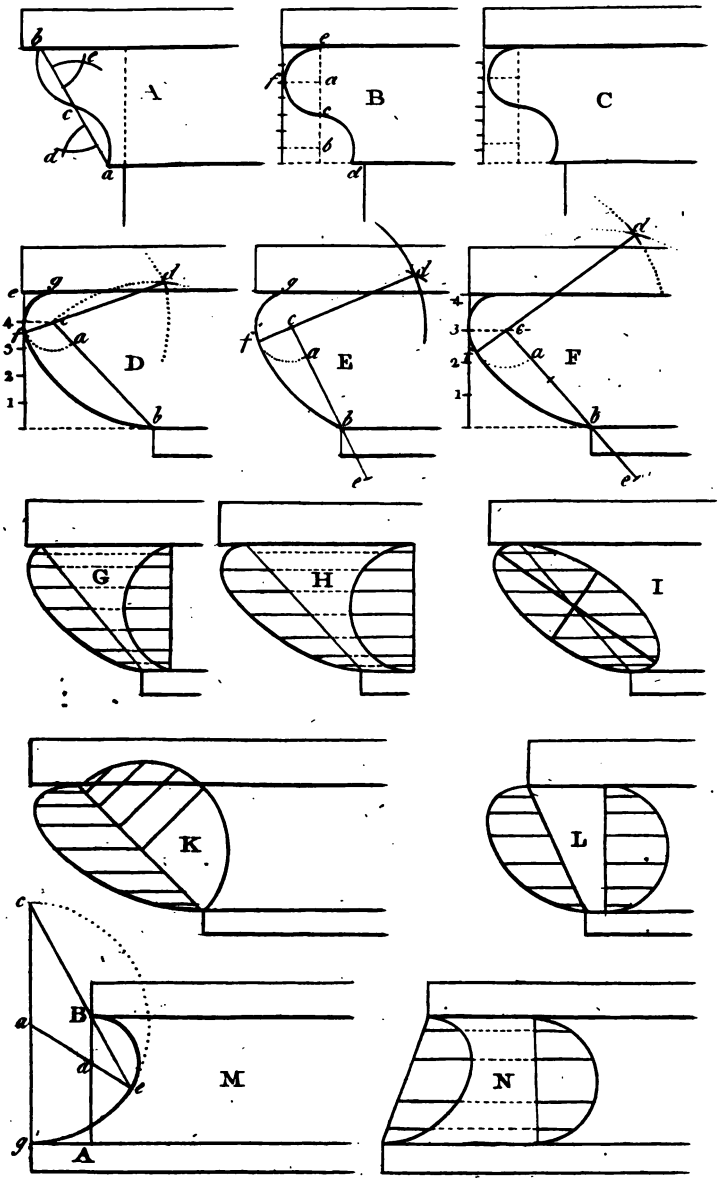
To describe the Cima Reversa A, join the projections at *a,* and *b,* by the line *a b,* and proceed in the same manner as with the cima recta before described.

To describe a quirked Cima Reversa B, divide the perpendicular height into seven parts; with two of the parts describe a semicircle *c e;* on *a* draw a line from *e c,* and on the height of the first division from the bottom *b,* describe the arc *c d,* and it will complete the moulding.

The quirked Cima Reversa C, is described in a similar manner, as is plain on inspection.

To describe a quirked Ovolo D, divide the height into four equal parts; with one part on *c,* describe the arc *a f g.* Join *c b* to the end of the fillet below; on *b* describe the arc *c d,* on *c,* with the distance *a b,* describe an arc cutting the former at *d;* through *d,* and *c,* draw the line *d c f,* cutting the small circle at *f;* then with a radius, *d f,* describe the arc *f b,* and it will complete a quirked ovolo.

To describe the quirked Moulding E, flatter in the lower part than that at D, describe the smaller circle as in the last; and through its centre, and the end *b*



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of the fillet, draw the line *c b e*, taking the point *e*, according as you intend to have the under part of the moulding flatter or quicker: take the distance *e c*, and on *b*, describe an arc at *d*, then take the distance *e a*, that is *e c*, made less by the radius *c a*, of the smaller arc *a f g*, on *c*, with that distance, describe an arc cutting the former at *d*; lastly on *d*, with a radius *d f*, describe the arc *f b*, and it will complete the quirked ovolo required.

Note, The quirked ovolo at F, is described in the same manner as E; the only difference being in the projection, which is greater.

These are the most proper for the workman's purpose, though various other methods may be shewn to answer the same purpose; as G, H, I, K, which are traced from a semicircle, by applying the same projections to a line of any inclination required.

G, is a torus moulding taken from a semicircle; and may be applied where the projection of the upper fillet is greater than the projection of the lower.

To describe a Scotia M, from the top of the fillet draw B A, perpendicular, cutting the bottom of the fillet at A: from *g* the end of the bottom fillet, draw the line *g a c*, parallel to A B: make *g a*, equal to twice *g* A, on *a*: describe the semicircle *g e c*, cutting the line *g a c*, at *c*, through *c*, and the end of the fillet, at B, draw the line *c* B *e*, cutting the semicircle at *e*: draw the line *a d e*, cutting A B, in *d*; lastly on *d*, describe the arc *e* B, and it will complete the scotia.

N is a scotia, described by a similar method to the ovolos G, H, I, K, *viz.* through points found from a semicircle, to the height of the moulding.

PLATE III.

MODERN MOULDINGS.

To describe a Grecian Ovolo or Echinus, have two tangents to the curve, and the points of contact given, one of the points of contact being the greatest projection, and the other the lower extremity of the curve.

Fig. 1, 2, 3, let A B, B C, be the two tangents, A, the point of contact at the greatest projection, and C, the lower extremity of the curve; draw A E, parallel to B C, and C E, parallel to B A; produce C E, to F, making E F, equal to E C; divide A E, and A B, each into the same number of equal parts; from the point F, draw lines through the points of division in A E, and also from the point C, draw lines to the points of division in A B, to meet the others through the divisions of A E; through the intersections draw a curve, which will be the contour of the ovolo required.

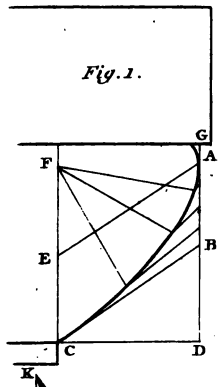
OBSERVATIONS.

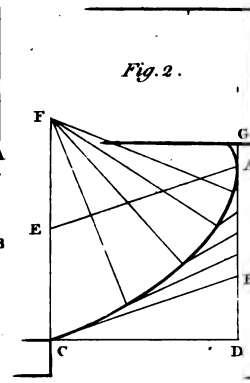
The moulding will be flatter or quicker according as the point B, the extremity of the tangent B C, is nearer or more remote from A, the greatest projection. In *Fig.* 1, B D, is one half of A D; in *Fig.* 2, B D, is one third of A D; and in *Fig.* 3, B D, is one fourth of A D. Also the quirk or recess at the top will be greater, as the distance A G is greater, A G, being in the same straight line with A D.

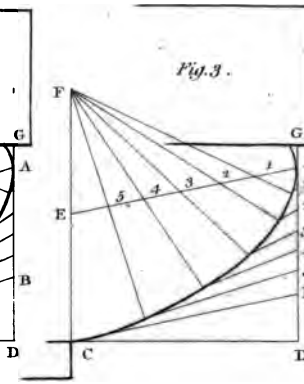
The same things being given, to describe the moulding to any of the conic sections.

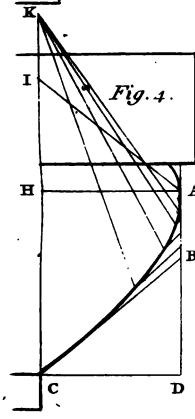
Fig. 4. Draw A H, parallel to the fillets; produce the vertical line C H, to K, making H K, equal H C,

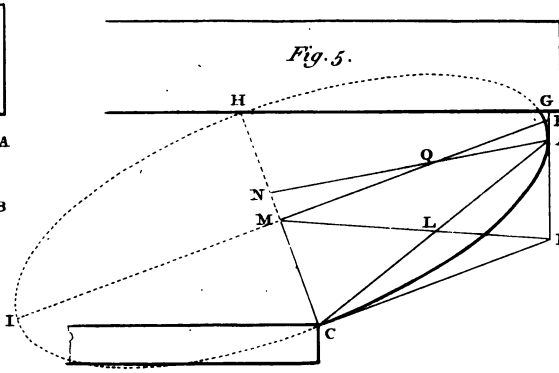
Modern Mouldings.

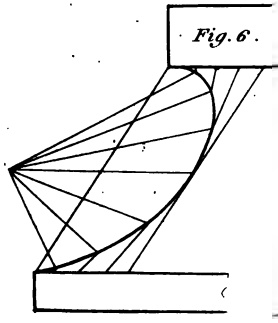


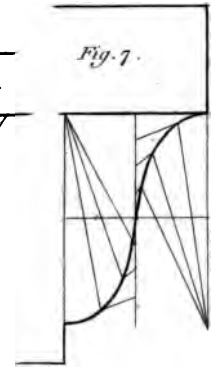


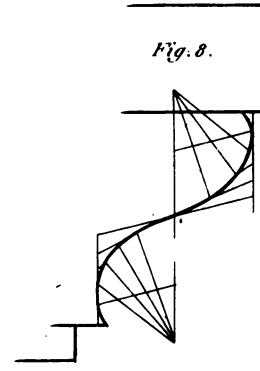












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and H I, equal to B D: join A I; divide A I, and A B, each into the same number of equal parts, and through the points of division in these lines, and through the points K, and C, draw lines to meet each other, and through these points draw a curve, and it will be the ovolo required.

OBSERVATION.

If B D, were less than the half of A D, the moulding would be elliptical; and if B D, were equal to the half of A D, the moulding would be parabolical. In this example B D, is greater than the half of A D, the moulding is hyperbolical. Of this form is the echinus in all the Grecian Doric capitals, except the Doric Portico at Athens, in which the echinus of the capital is elliptical.

The same things being given to describe the echinus, the point C *being the extremity of one of the axes.*

Fig. 5. join A C, and bisect it in L; draw B, L, M, C M, perpendicular to B C, and P M, parallel to B C: with the distance C M, on the point A, describe an arc cutting P M, at O: produce C M, to N, and draw A, O, N; make N P, equal to A N, and M P, and M will be the two semi-axes by which the curve may be described.

Fig. 6. *is a Scotia or Trochillus,* the fillets may be considered as tangents, and the line parallel to the line joining the fillet as another tangent. *Fig.* 7. a cima-recta, compounded of two quarters of an ellipse upon the axes. *Fig.* 8. a cima-reversa, compounded of two quarters of an ellipse from conjugate diameters, which are given in position. These are described upon similar principles to figures 1, 2, and 3.

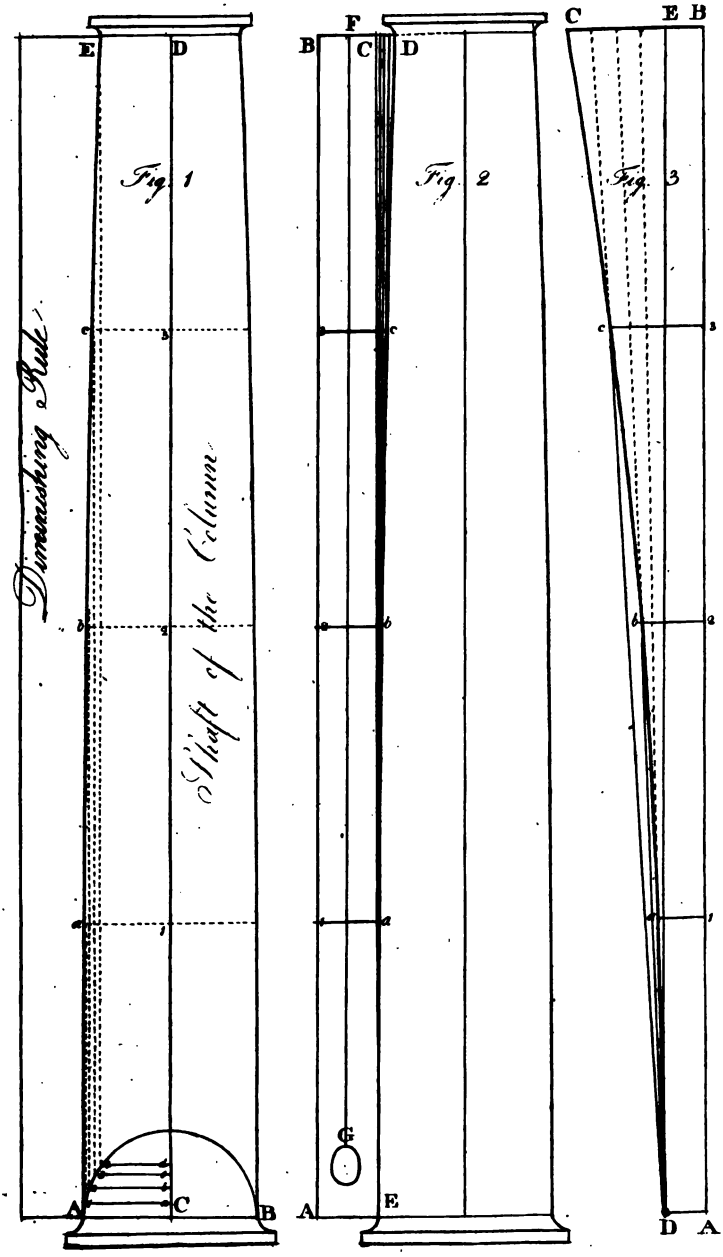
PLATE IV.

TO MAKE A RULE FOR DIMINISHING THE SHAFT OF A COLUMN.

Method 1st. *Fig.* 1. describe a semicircle, on the bottom of the column A B, from the top of the column, draw the line E 4, parallel to the axis D C, or middle line of the column, cutting the semicircle at the base in 4; divide the arc A 4, into four, or any other number of equal parts, and divide the height C D, into the same number of equal parts, as 1, 2, 3; through the divisions 1, 2, 3, 4, of the semicircle at the base, draw lines 1 *a*, 2 *b*, 3 *c*, and 4 *d*, parallel to A B; set off those parts from each side of the axis, on the corresponding numbers on the shaft; then by bending a thin lath or slip, round pins or nails fixt in these points, you will have the contour, or curve of the column: and the reverse of this will be the edge of the rule for working it by.

Method 2nd. *Fig.* 2. divide the height of the diminishing rule, as A B, into any number of equal parts; as four, at 1, 2, 3, and divide the difference of the semidiameter C D, at the top and bottom, into the same number, *viz.* four, and draw lines from each division on C D, towards E, at the bottom; cutting lines drawn parallel to the base, through 1, 2, 3, will give points, by which you may draw as before, a curve of a very regular and pleasing form, which may be drawn on the edge of the rule, or on the column itself, as is most convenient for the workman; this, in my opinion, is much preferable to the first method.

Fig. 3. shews the same thing not in its just proportion but clearer to inspection, as the divisions are much larger.



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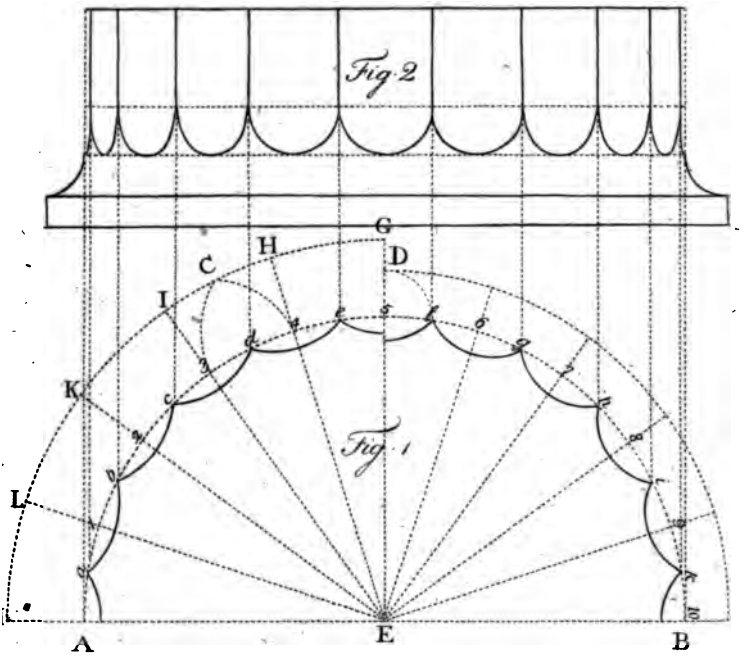
TO DRAW THE FLUTES OF COLUMNS



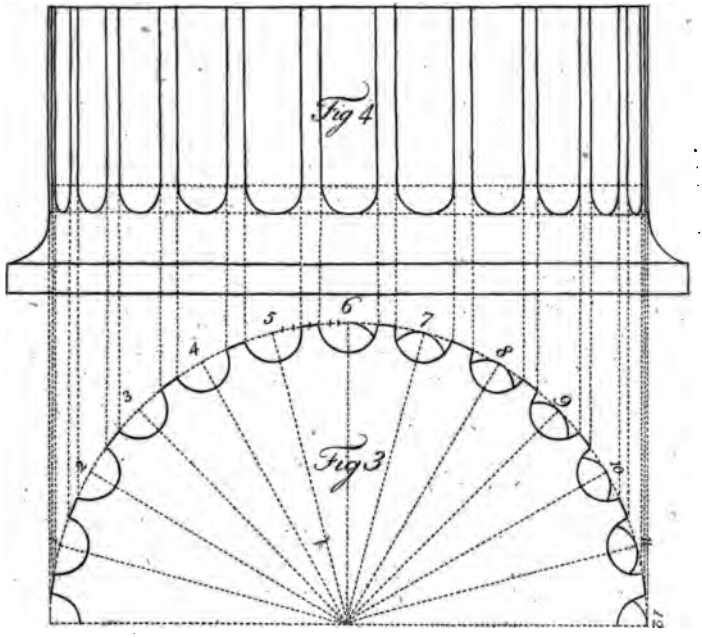


PLATE V.

TO DRAW THE FLUTES OF COLUMNS.

To draw the flutes of the Doric Column. On A B, *Fig.* 1. the diameter of the column, describe a semicircle, and divide the semicircle into ten equal parts; (as the Doric column usually contains twenty flutes, which are in general made shallow, and without fillets;) through every two of the divisions draw lines E 1, E 2, E 3, E 4, to E 10, between any two divisions (as 3 and 4) describe two arcs whose vertex is C: on E with a radius E C, describe the quadrant G, H, I, K, L, M, cutting the lines E A, E 1, E 2, E 3, E 4, &c. in the points, G, H, I, K, L, M, which are the centres for the flutes; but if the flutes are wanted deeper, you may make the distance 5 D, half the breadth of a flute; and proceed as shewn on the other quadrant, and from *a*, *b*, *c*, &c. draw perpendiculars to the bottom of the column.

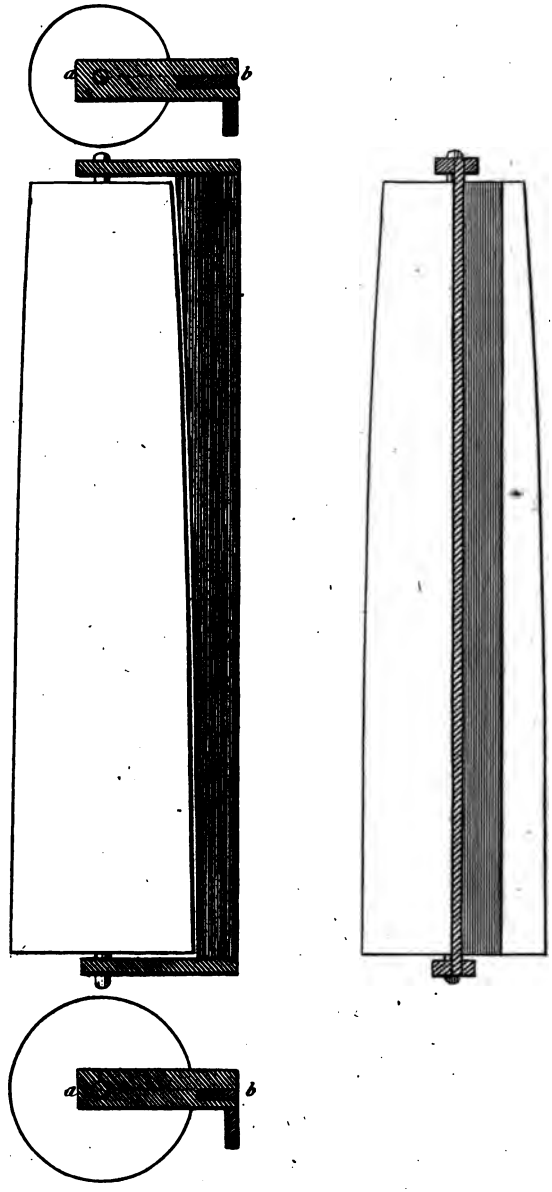
Fig. 2. *The Ionic, Corinthian, and Composite orders,* have in general twenty-four flutes, with a fillet between each; (the fillet one third of a flute;) in order to have that number, and preserve the just proportion of a flute to a fillet, observe the following rule: divide the semi-circumference, *Fig.* 3. into twelve equal parts, at 1, 2, 3, 4, 5, &c. to 12, divide any division into eight equal parts, as that between 5 and 6, then take three of these parts, and on 1, 2, 3, &c. to 12, as centres, describe arcs which are nearly semicircular as in the plate, and then draw them to the column, *Fig.* 4.

PLATE VI.

TO DRAW THE FLUTES AND FILLETS ROUND THE SHAFT OF A COLUMN.

If the columns are of stone, or wood, the whole or any part may be fluted in the following manner; after being properly rounded, and the end or joints made parallel to each other, find the centres of the circles at each end; and if they are not already found, cut two holes, directly in the middle at each end perpendicular to the joints, so that the centres shall be in the middle of the holes; this being done, drive in two pieces of wood, so as to be quite tight in the holes, and to project out about five or six inches; let the projecting parts be well rounded off, so as to be exactly in the middle of the ends, then make a diminishing rule as in Plate IV. To fit the curve of the column, let the ends of this diminishing rule be fixed into two pieces, *a b;* which are made to revolve round the pins at the ends by means of notches, or any other convenient way; so that the curved edge of the rule be very near to the curved surface of the column; and one side of the rule to tend exactly to the centre: to keep the rule steady from bending sideways, fix a rule to the other side, the whole length of the diminishing rule, of a sufficient strength to keep the diminishing rule from bending; so that the breadths of the two rules will be at right angles to each other, the two end pieces and diminishing rule being fixed fast together; the whole may be turned round the pins at the ends as centres, like one entire piece: then the operation of drawing the flutes and fillets will be as follows: suppose it were required to flute the Ionic,

draw the flutes & fillets on the Shaft of a Colum



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Corinthian, or Composite columns, the circumference at either end will be divided into six equal parts, by taking half the diameter at that end, and applying it round the said circumference; then each of these divisions being divided into four, the whole circumference will be divided into twenty-four: in order to have the proportion of a flute to a fillet as 1 to 3, divide any one of the last divisions into four equal parts, and one of these parts will be the breadth of a fillet, which being set off from the same side of each division, the whole column will be divided into flutes and fillets; then by turning the rule round to each mark, or division, you may with a piece of sharp steel draw on the shaft of the column the flutes and fillets, to the greatest exactness, by keeping it close to the side of the rule.

This method is by far the most ready, as well as the most correct of any that I have yet seen; this machine is shewn complete on the plate, and I hope a careful inspection will render it sufficiently plain: there are other methods of drawing the flutes on the shaft of a column, as by drawing two parallel lines through the centre at each end of the column, and dividing the circumferences at the ends into the number of flutes and fillets, then bending a thin rule from the respective divisions at each end; it is necessary to be careful that the edge of the rule by which you draw, touch the curved surface of the column only: but this method, however simple, is very liable to error. Other methods, used by some workmen for setting off the flutes and fillets round the shaft of a column, are as follow;

PLATE VII.

TO DRAW THE FLUTES AND FILLETS ON A COLUMN OR PILASTER.

Fig. 1. A B, is any line divided into flutes and fillets, greater than the circumference of the column at the base; on A B, describe the equilateral triangle A B G, draw all the points in A B, to G, then if G C, and G D, are equal to the circumference of the column at the bottom of the shaft, the line C D, will be equal to the same circumference; lay a piece of parchment, or any thing that is pliable, on C D, and mark all the flutes and fillets on it; then apply this round the column at the bottom, and prick them round it, divide the circumference at top in the same manner as E F, and draw the flutes with a thin rule as before.

Fig. 2. is another method for marking the flutes and fillets round the end of the column; the line A B, is a line divided into flutes and fillets, less than the circumference of the top part of the column; draw any number of parallel lines from the divisions of A B, let B C, B D, B E, be the top or bottom diameter; set one foot of the compasses in B, and cross the line A F, at C, D, or E, draw the line B C, B D, or B E, and either will be divided into flutes and fillets, as before.

Let A B, be the breadth of the pilaster, draw any line A C; take your compasses at any convenient opening, and run twenty-nine times the said opening from A to C, and join B C; then set your bevel to the angle A C B, and from the points on A C, draw

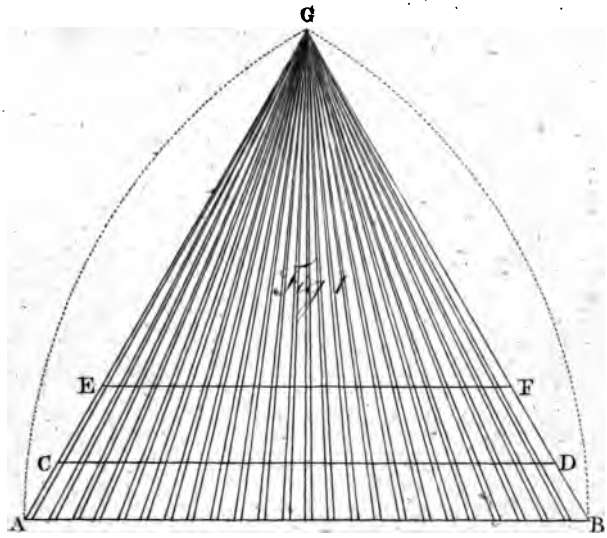

Fig 1

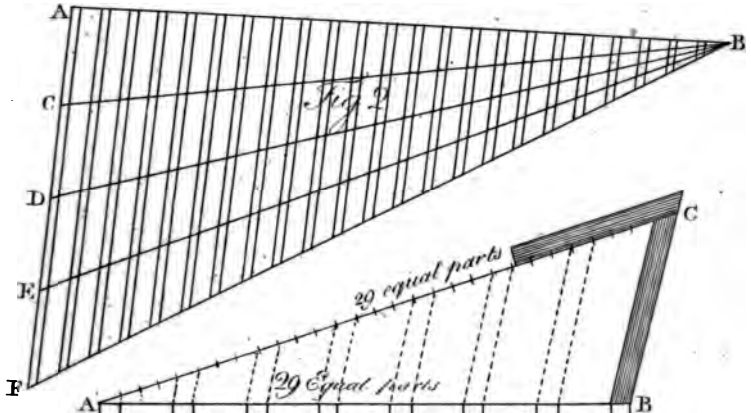

Fig 2

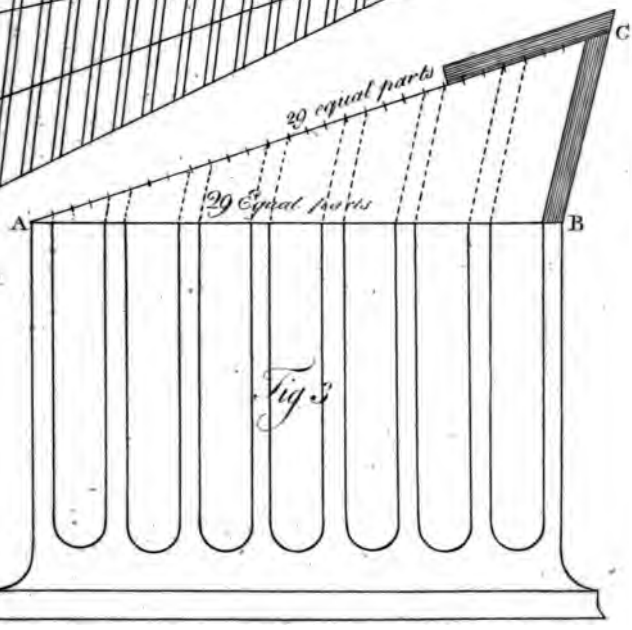

Fig 3

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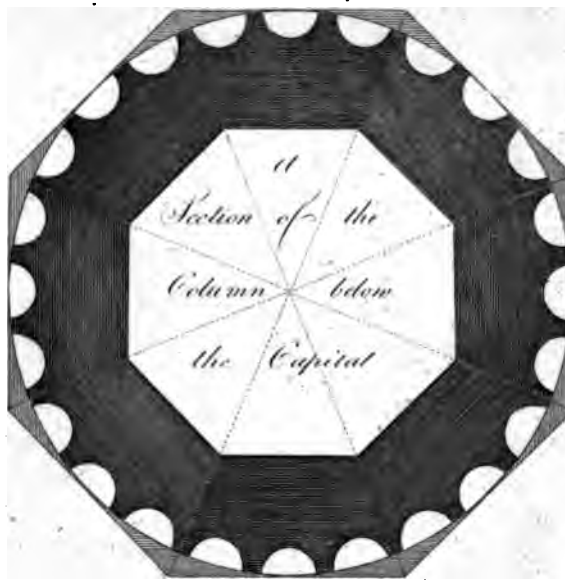
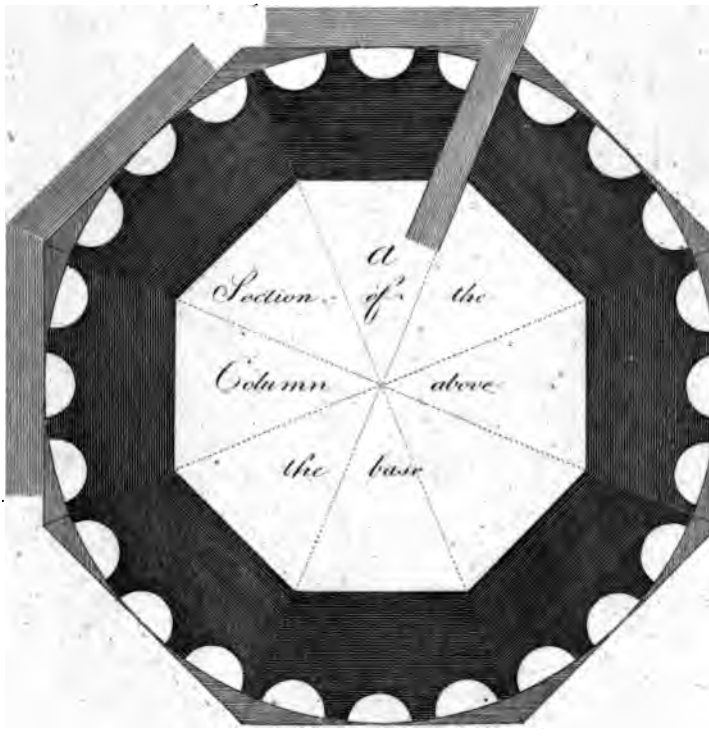


The manner of Fluting up the shafts of a Column



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lines cutting A B, as is shewn by the figure, and from the points on A B, draw the flutes and fillets with a common gauge.

There is another method of drawing the flutes of a diminished pilaster with one gauge, and at one movement, by making the gauge equal to the width of the bottom, or something wider; but as this method is erroneous in its principle, no diagram is exhibited.

The best method to draw the flutes on a diminished pilaster, is to divide the height of the trunk into any convenient number of equal parts on a longitudinal line passing through the middle of the breadth at top and bottom, and through the points of division draw transverse lines to the longitudinal line: set off the flutes and fillets on each transverse line: take nails or brads in each corresponding point of each transverse line, and bend a pliable slip of wood round the nails, and draw a line, and proceed till every set of corresponding points are used, and the pilaster will have its face drawn for flutes as required.

PLATE VIII.

TO GLUE UP THE SHAFT OF A COLUMN.

This must be glued up in eight or more staves, according to the bigness of the column, but always observe to have the joint in the middle of a fillet, and not in a flute, as it would very much weaken it; in this plate is shewn the plan of the top and bottom ends, or the horizontal section at each end. If eight pieces are sufficient for the column, you must describe an octagon round the ends, then draw lines

from each angle of the octagon to the centre, and it will give the bevel of the edges of the staves for the joints, which must be quite straight from top to bottom; only, that the staves be narrower at the top, as is shewn by the plans of the column; the staves must be of a sufficient thickness, because the outside is to be curved to the swell of the column, by means of a diminishing rule: then proceed to glue the pieces together one after the other; as the glue dries, block them well at the corners in the inside, which will greatly strengthen the joints: proceed in this manner to the last stave; the blocks must be glued on and dried before you can glue your last stave in: or you may glue pieces quite across for the last stave, fixed to the inside of the two adjoining staves; or by screws fix them to each stave, then the underside of your last stave must be planned so as to rub well on the cross pieces, and when the stave is put in, and glued upon the said cross pieces, you may drive it tight home like a wedge, and the whole will be as firm as possible; but care must be taken that the staves and blocks are quite dry, otherwise the column after some time will be in danger of coming to pieces at the joints: in glueing each piece, care must be taken to try it to the plan, or backing mould, as a trifling difference in each will make a very sensible error in going round the column after the glueing; when the glue in the columns is dry, you may proceed to work off the angles regularly all round; the column will then have double the number of sides, or cants; proceed in the same manner, working off the angles as before, so as to make the

column have its sides, or cants, quite regular; lastly, make a plane to fit the curve of the column at the bottom, or rather flatter; then round off all the angles, until the surface of the column is quite smooth: there is, however, one thing I would observe in respect to the moulds for jointing the staves together; that is, they are not exactly true when applied in a direction perpendicular to the joint; the proper method to find them true is in the same manner as you will find the backing of a hip rafter, or of a pitch skylight; but, however, this exactness is not always attended to, as the deviation from the truth is so small as to be disregarded: after your column is quite finished, it ought to be well painted, to preserve it from being injured by the weather.

Another method is, glue the column in two halves, and then glue these together; the blockings may be put in a considerable way by hand; but if the column is too long, a rod of sufficient length may be used. Either of these methods have inconveniences which cannot be avoided; by the former method the last joints cannot be rubbed together because of the tapering of the stave, but if it is glued quickly, it will be pretty sound: by the latter method there is an uncertainty of the blockings being sound.

Note, The grain of the blocking pieces must be the same way as the grain of the column, that if affected by weather, they may expand alike.

For the method of glueing up Bases, see Plate XXXVIII. and description.

OF THE TUSCAN ORDER.

PLATE IX.

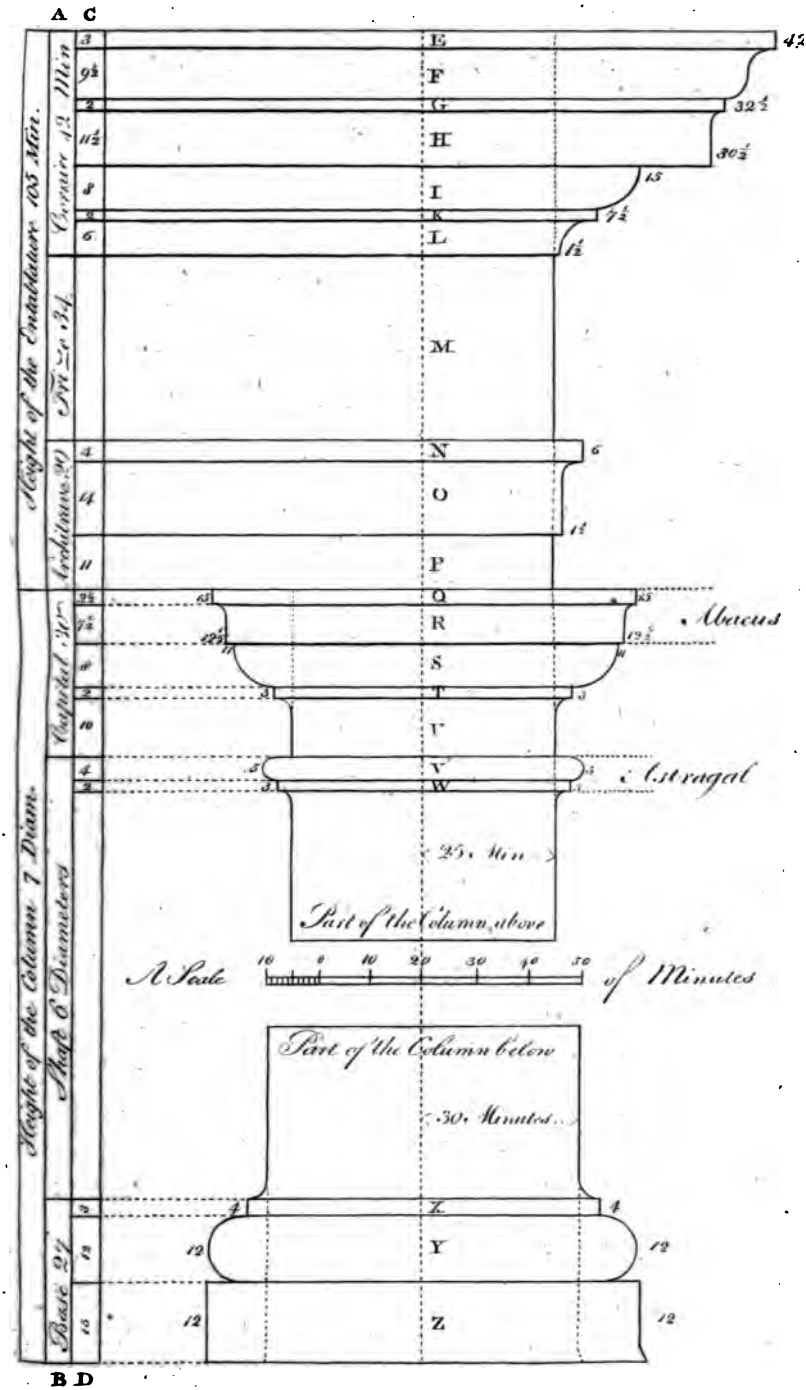
To draw this, or any other Order.

NAMES OF THE MOULDINGS.

In the Entablature.		*In the Column.*	
E a Fillet	In the Cornice	Q Fillet	In the Capital
F Cima Recta		R Fascia	
G Fillet		S Ovolo	
H Corona		T Fillet	
I Ovolo		U Neck of the Capital	
K Fillet			
L Cavetto		V Bead	In the Shaft
M ———	Frize	W Fillet	
N Tenia	In the Architrave	X Fillet	In the Base.
O Upper Fascia		Y Torus	
P Lower Fascia		Z Plinth	

Make a scale of the diameter of the column at the bottom; first divide it into six equal parts called modules, divide the first of these into ten, which are called minutes; then every member of the order is so many minutes of this scale, either in height or projection: the operation is as follows: draw an axis or perpendicular through the middle of the column; on this line set all your heights, or on any other line parallel to it: then make another line parallel to the axis at the distance of twenty-five minutes, which allows five minutes on each side for the diminution at top; from this line set off your projections, as figured in the plate; for example, the projection of the top fillet E is forty-two minutes, and the projection of the next fillet G is thirty-two minutes and a half; then proceed to draw the cima recta, as already

Tuscan Order.



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shewn at Plate I, and afterwards all the other members, until you come to the base which is set off from the outer extremity of the column, that is thirty minutes from the axis.

In the Tuscan order, the column is seven diameters high, that is seven times its diameter at the base, the entablature is one fourth of the height of the column: but if the order has a pedestal, which is seldom the case, it will be one-fifth part of the entire order in height.

To make this practice as easy as possible to the workman, the following examples will be found useful.

To find the diameter of the Tuscan Column, when that alone is to be executed.

RULE.

Divide the height of the column by seven, and the quotient will be the diameter.

EXAMPLE I.

Suppose it were required to execute the Tuscan Column alone, to the height of twenty-two feet, three inches, I demand the diameter of the column.

OPERATION.

7) 22 ... 3

3 ... $2\frac{1}{7}$

So that the diameter of the column is three feet two inches and one seventh part of an inch.

Divide 3 ... $2\frac{1}{7}$ into sixty equal parts, will give a scale of minutes for proportioning the parts. The diameter, found by the following rule, in feet and inches, is always supposed to be divided into sixty equal parts, for minutes.

To find the height of the Tuscan Entablature, and the diameter of its column, the entire height of the column and entablature being given.

RULE.

Divide the height by five, and the quotient will give the height of the entablature; subtract the height of the entablature last found from the entire height, and the remainder will be the height of the column; divide this remainder by seven, as before, and the quotient will be the diameter of the column.

EXAMPLE II.

Suppose it were required to execute the Tuscan Columns with its entablature, to the height of twenty-two feet one inch, I demand the height of the entablature, and the diameter of the column.

OPERATION.

5) 22 ... 1

4 ... 5 height of the Entablature

7) 17 ... 8 height of Column

2 ... 6$\frac{2}{7}$ diameter of the Column

The diameter of the column being now found, it will be readily put in as follows: Suppose it were required to execute a column to two feet six inches, and two-seventh parts of an inch; take a rod of that dimension, and divide it into six equal parts, or modules, and the first part again into ten for minutes, and proceed in practice in the same manner as if you were drawing it on paper.

To find the diameter of the Column, the height of the Entablature, and the height of the Pedestal, when the whole is to be executed to a given height.

RULE.

Divide the entire height by five, and the quotient will be the height of the pedestal: subtract this height from the entire height, and the remainder will be the height of the column, with its entablature: divide the remainder again by five, and the quotient will be the height of the entablature: subtract the quotient from the first remainder, and the last remainder will be the height of the column: and this last remainder being divided by seven, will give the diameter of the column.

EXAMPLE.

It is required to execute the Tuscan Order complete, with an entablature, column, and pedestal, to the height of thirty feet: I demand the height of the pedestal, height of the entablature, and diameter of the column.

OPERATION.

5) 30

6 feet, the height of the Pedestal

5) 24 height of the Column and Entablature

4 ... 9½ height of the Entablature

7) 19 ... 2½ height of the Column

2 ... 8½ diameter of the Column

PLATE X.

The Tuscan Order properly shaded is given as an example, after the manner of setting out the parts and striking the mouldings are well acquired.

PLATE XI.

TO DRAW THE TUSCAN COLUMN TO A GIVEN HEIGHT.

For the Column.

Fig. 1. Divide the height in seven equal parts, one of these is the diameter of the column, and a scale to proportion the parts by. See page 16.

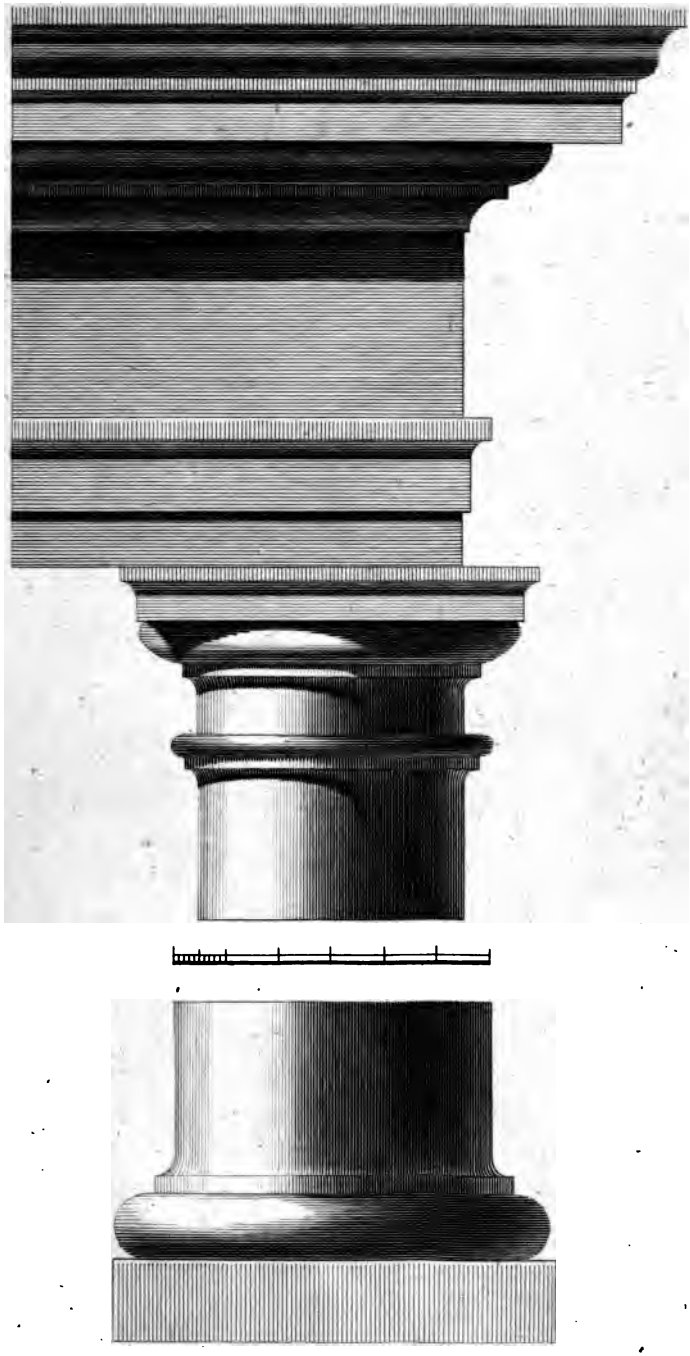
For the Column and Entablature.

Fig. 2. Divide the given height into five equal parts, give one for the height of the entablature; then divide the remaining four into seven parts, of which one will be the diameter of the column.

For the Column and Entablature upon a Subplinth.

Divide the whole height CD into twelve equal parts, one will be the height of the subplinth; divide the remaining eleven into five equal parts, one will be the height of the entablature; divide the remaining four of these parts into seven, and one will be the diameter of the column.

Tuscan Order



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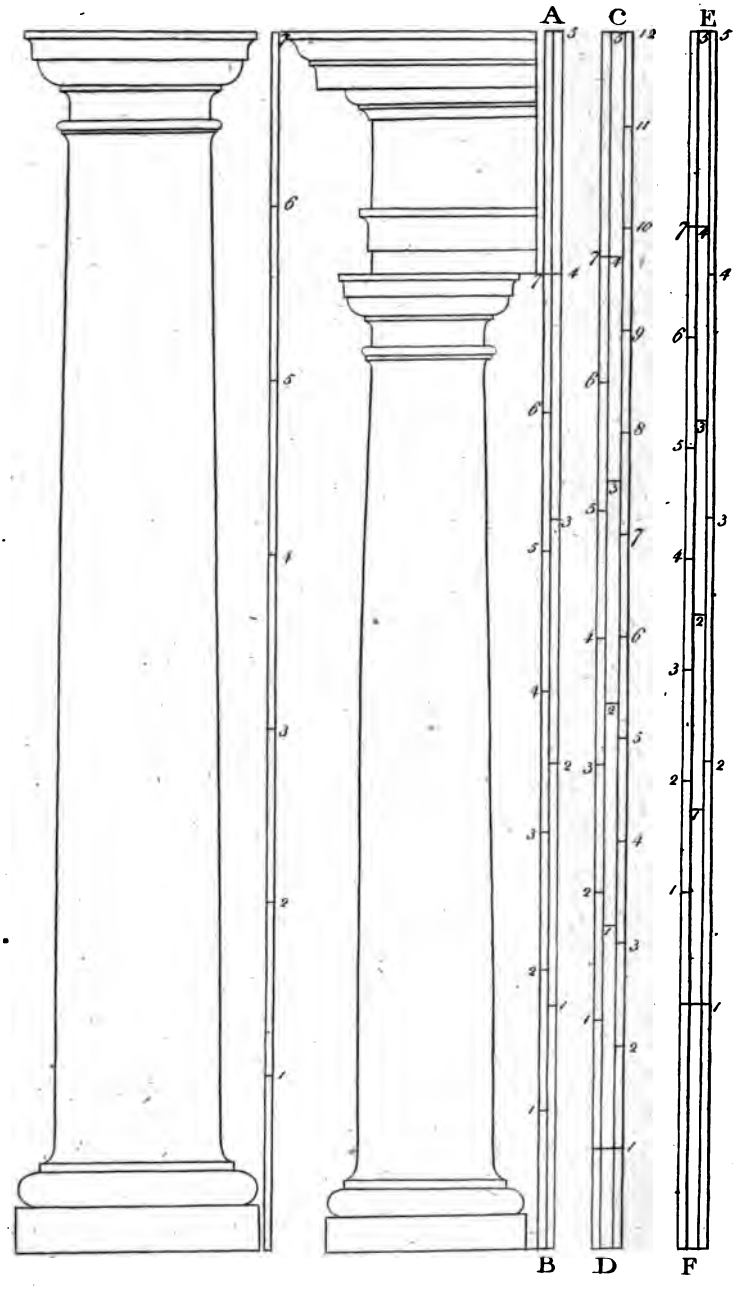
Tuscan.

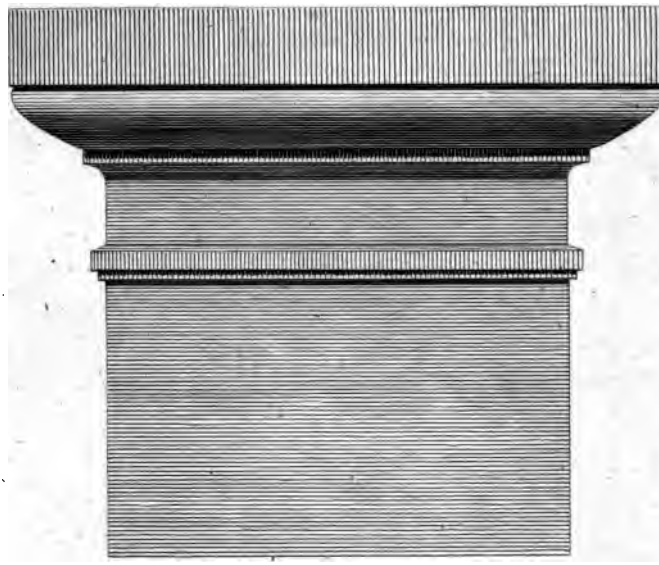
Pl.

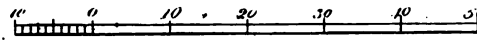
Fig. 1.

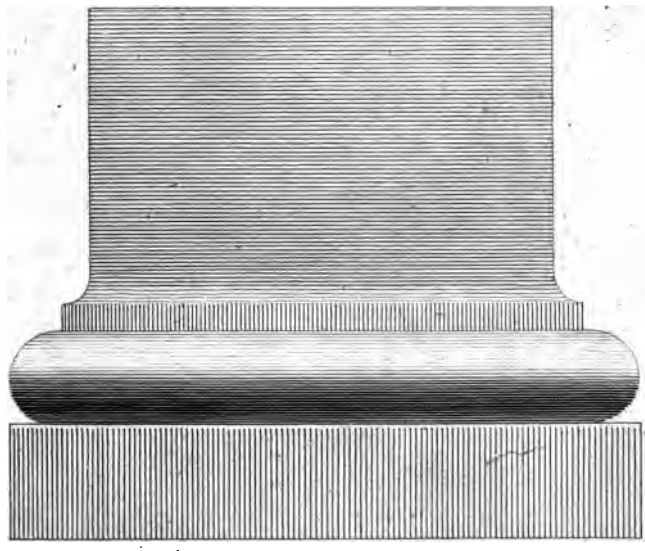
Fig. 2.



A finished Base and Capital for a pilaster







wn by P. Nicholson Engraved by Rober

For the Column and Entablature upon a Pedestal.

Divide the whole height E F into five equal parts, he lower one will give the height of the pedestal; livide the remaining four into five equal parts, the ıpper one will give the height of the entablature; ɔivide the remaining four of these into seven equal parts, and one is the diameter of the column.

PLATE XII.

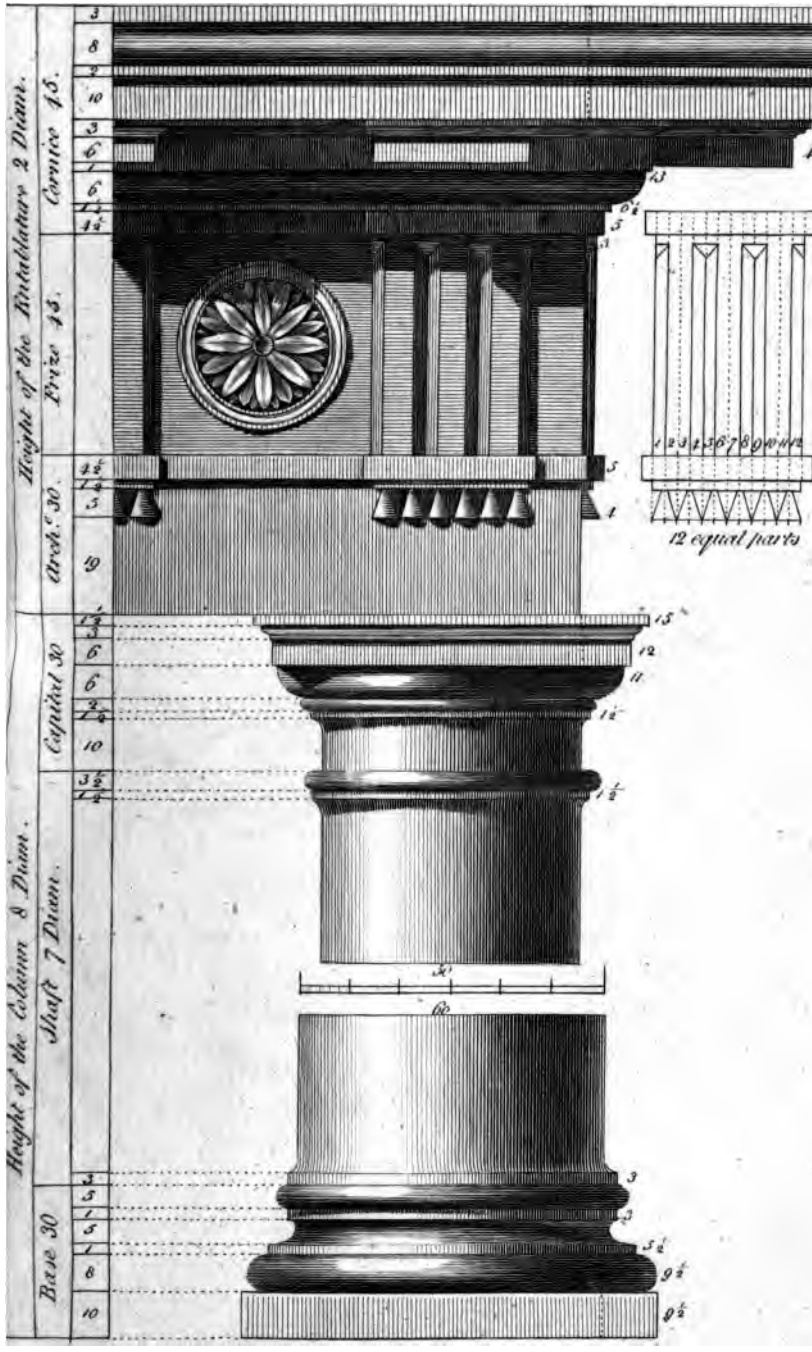
Is a Tuscan base and capital for a pilaster: the scale will shew the proportions of the parts.

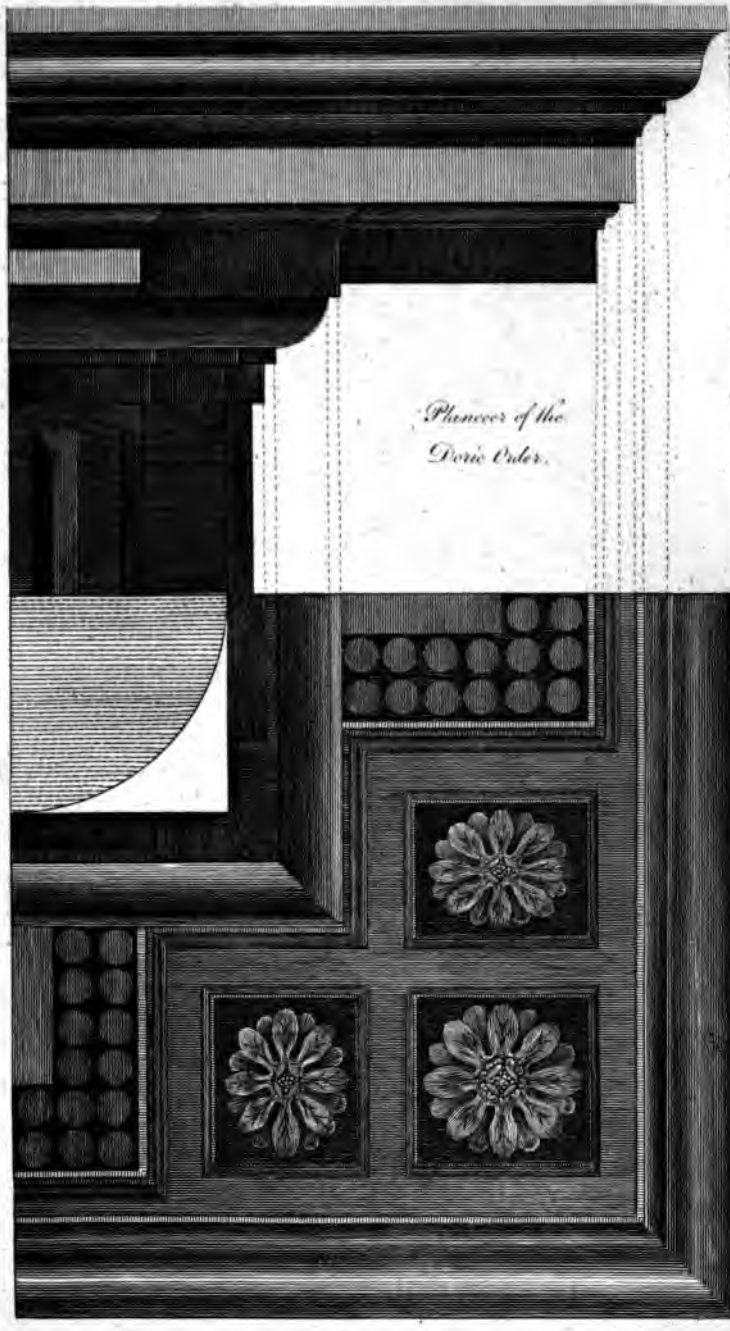
OF THE DORIC ORDER.

PLATE XIII.

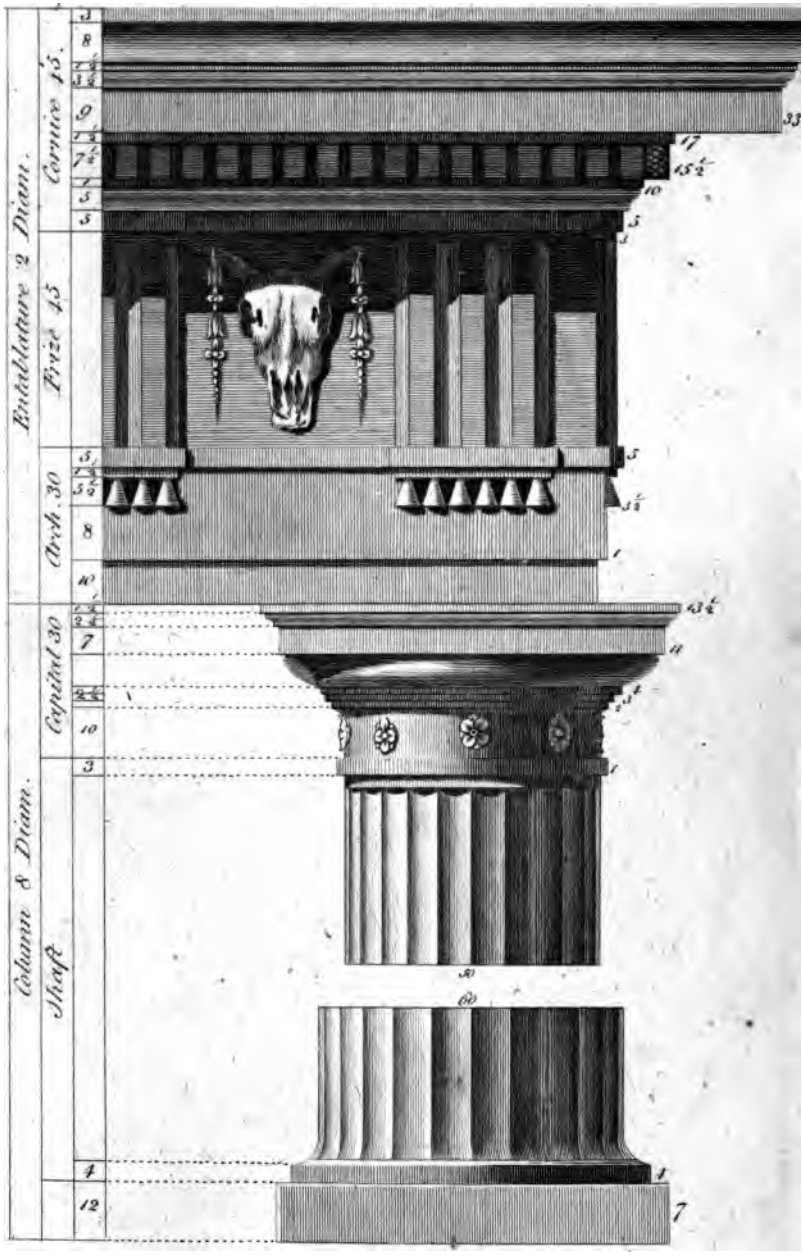
The manner of drawing the parts of the Doric Order is much the same as in the Tuscan; the heights and projection of the parts being taken from the diameter of the column at bottom, which is a scale, alike in all the orders; so that the drawing and executing of the Tuscan order if well understood, to draw the Doric or any other order will easily be comprehended, without further instruction or repetition. One thing may seem difficult in this order, which are the triglyphs; these in modern buildings are placed exactly over the centre of the column, thirty-minutes wide, so that fifteen minutes are on each side of the axis of the column: the mutules in the cornice are exactly over them, of the same breadth; the small conical frustrum under the triglyphs are called guttæ or bells: the manner of drawing the triglyph and bells is as follows; divide the breadth into twelve equal parts, give one to each half channel on the outside, two for each space or interval, and two for each channel, and one space will remain in the middle; every two divisions or parts is the width of a bell; the side of every bell, if continued, would terminate in a point at the top of the fillet above them; the spaces between the triglyphs, called metopes, are generally square, and sometimes enriched with ox heads, as in Plate XV.

Doric Order.


Height of the Entablature 2 Diam.
Cornice 15.
Frize 15.
Archt. 30.
Capital 30
Height of the Column 8 Diam.
Shaft 7 Diam.
Base 30
12 equal parts


Phancer of the
Doric Order.

The Ionic Order with dentils.



and sometimes with pateras, according to fancy; when the column is fluted it has twenty in number, and these without fillets, as in Plate XV. For the manner of drawing the flutes of the Doric column, see Plate V. *Fig.* 1 and 2.

PLATE XIV.

Is a Doric cornice with the planceer inverted, so that the whole of the work and ornaments under the cornice may be clearly seen.

PLATE XV.

Is another example of the Doric order, with dentils in the cornice, and is very proper for the inside of a building, the column being fluted, and the whole much enriched.

This example is after the manner of the Doric order, in the theatre of Marcellus at Rome.

TO DRAW THE DORIC ORDER TO A GIVEN HEIGHT.

For the Column.

Divide the height into eight equal parts, one of the parts is the diameter of the column, which diameter is to be divided into modules and minutes, as before directed, for practice,

For the Column and Entablature.

Divide the given height into five equal parts, and the upper parts will give the height of the entablature; divide the remaining four into eight equal parts, and one will give the diameter of the column.

For the Column and Entablature upon a subplinth.

Divide the given height into twelve equal parts, the lower one will give the height of the subplinth; divide the remaining eleven into five equal parts, the upper one is the height of the entablature; divide the remaining four parts into eight, and one of these is the diameter of the column.

For the Column and Entablature upon a pedestal.

Divide the given height into five equal parts, the lower one is the height of the pedestal; divide the remaining four into five equal parts, and the upper one is the height of the entablature; divide the remaining four of these into eight equal parts, and one will give the diameter of the column.

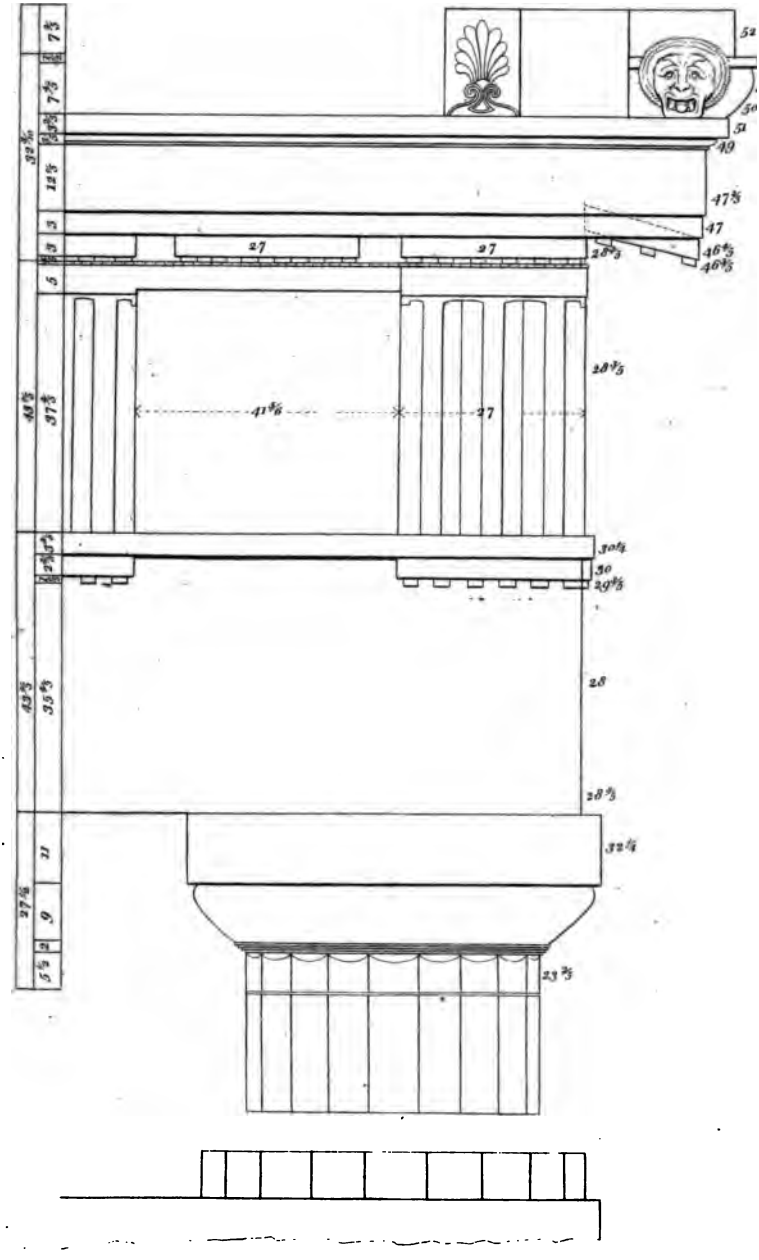
PLATE XVI.

FROM THE TEMPLE OF MINERVA AT ATHENS.

Shews the profile of the order, elevation of the parts, and proportion of the members. This example is taken from the flank of the Temple, and is well adapted to all buildings which require a solemn and dignified character. The temple from which this example is taken, is one of the numerous buildings which were erected during the administration of Pericles at Athens; he employed Calicrates and Ictinus as architects, under Phidias. It exceeds all the remains of antiquity in grandeur and boldness of parts. The taste of the members of this example is much the same as in the temple of Theseus, as will be shewn hereafter, the parts here being only of a bolder character.

Note, The measurements are in modules and minutes.

Grecian Doric — Temple of Minerva.



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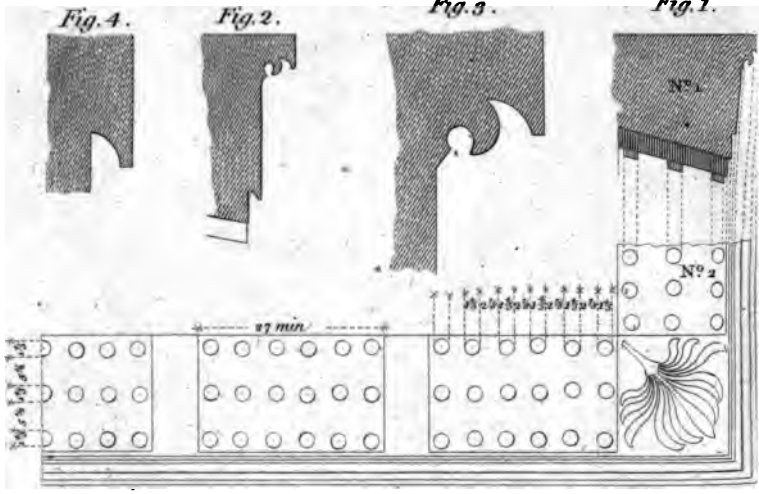
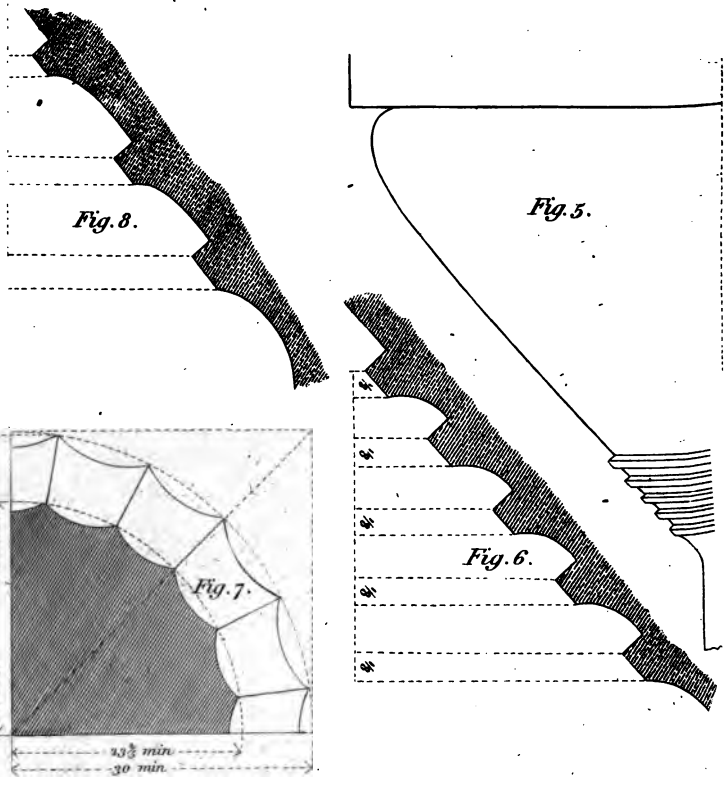
Temple of Minerva





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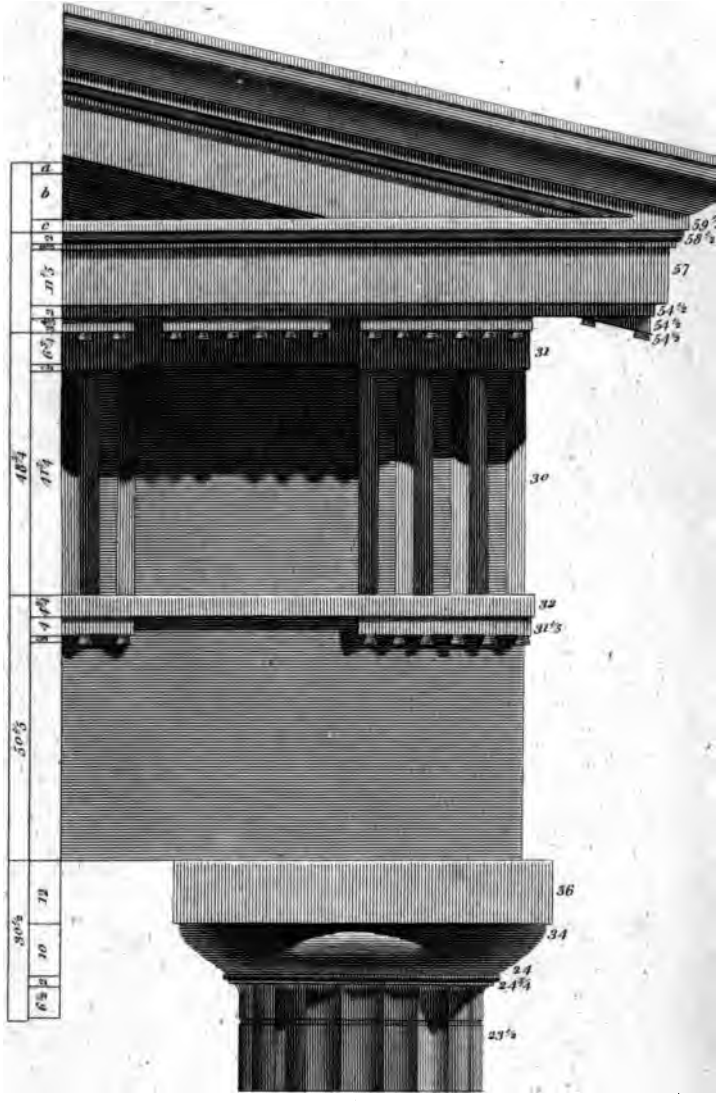
Grecian Doric — Temple of Theseus.



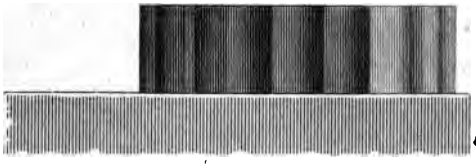


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PLATE XVII.

RTS AT LARGE AND IN DETAIL OF THE PRECEDING EXAMPLE.

Fig. 1. Cornice, No. 1. shews the profile, No. 2. ıe soffit.

Fig. 2. Profile of the front part to a larger scale.

Fig. 3. The moulding under the fillet still larger, ıewing its particular form.

Fig. 4. Shews the recess or cutting upwards, in e under face of the corona.

Fig. 5. Echinus of the Capital.

Fig. 6. Annulets of the same.

Fig. 7. Quarter plan of the column at each ex- emity.

Fig. 8. Annulets of the interior columns.

PLATE XVIII.

FROM THE TEMPLE OF THESEUS AT ATHENS.

The building from which this example is taken is ne of the most perfect remains of antiquity, and is enerally supposed to be of the age of Pericles. The arious parts have an elegant contour, are well pro- ortioned, of a light character, consequently it is ell adapted for private buildings. The column in ıe original is nearly six diameters in height. In ıis plate part of the pediment is shewn.

PLATE XIX.

PARTS AT LARGE AND IN DETAIL OF THE PRECEDING EXAMPLE.

Fig. 1. Quarter plan of the column, at the superior and inferior diameter of the shaft.

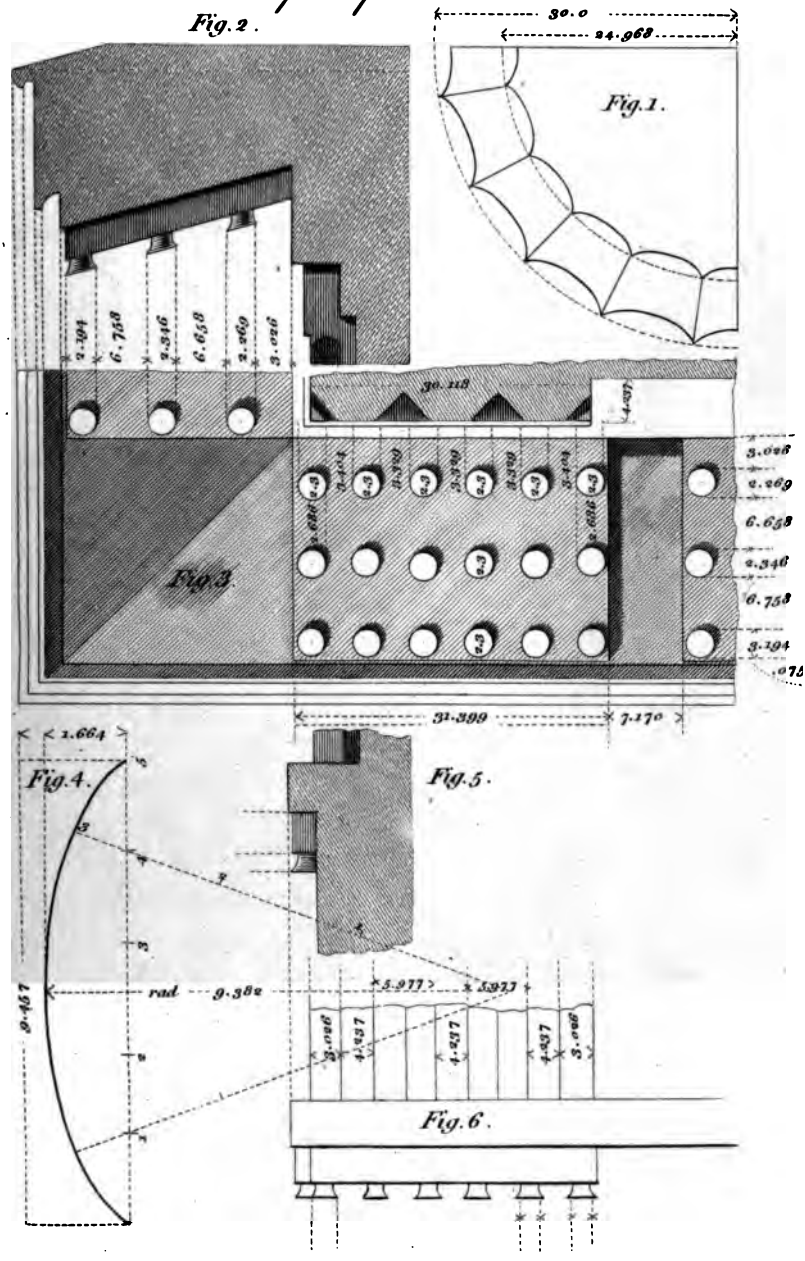
Fig. 2. Profile of the cornice to a large scale.

Fig. 3. Soffit of the corona, with a section of the angular triglyph.

Fig. 4. One of the flutes shewing its proportions, and the manner of drawing its elliptical segmental figure: first draw the chord to its extent, and bisect it by a perpendicular, set the depth of the flute on the perpendicular, from one side of the chord, which will give the extremity of the flute: from this extremity set the radius in the contrary direction, extending over the chord, which will give the centre: divide the chord of the flute into five equal parts, through the first division from each end, and from the centre, draw two right lines, then upon the centre with the radius describe an arc limited by these lines, and this will give the middle part of the flute; divide each of these radial lines into three equal parts: take the first point of division in each next to the arc, and describe each remaining part of the flute, and this will form the elliptic segmental figure of the flute.

Fig. 6. Lower part of the triglyph with the architrave band, the tenia, and the pending guttæ.

Temple of Theseus



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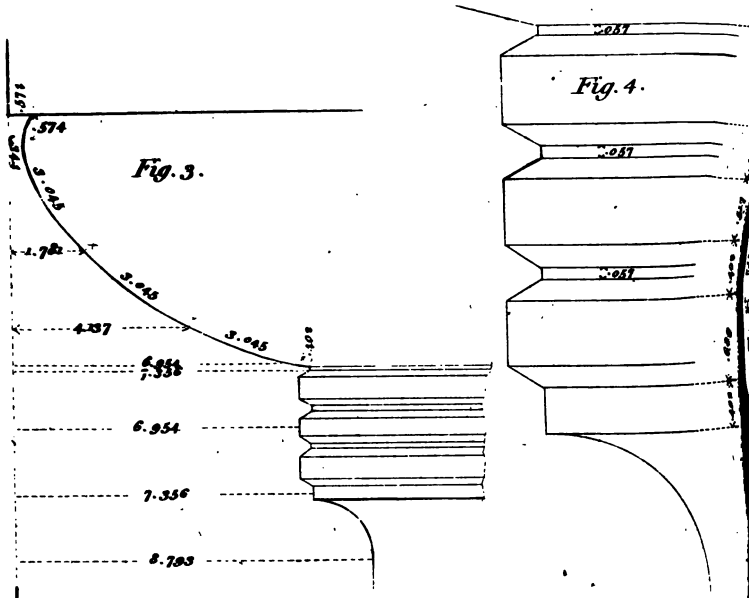
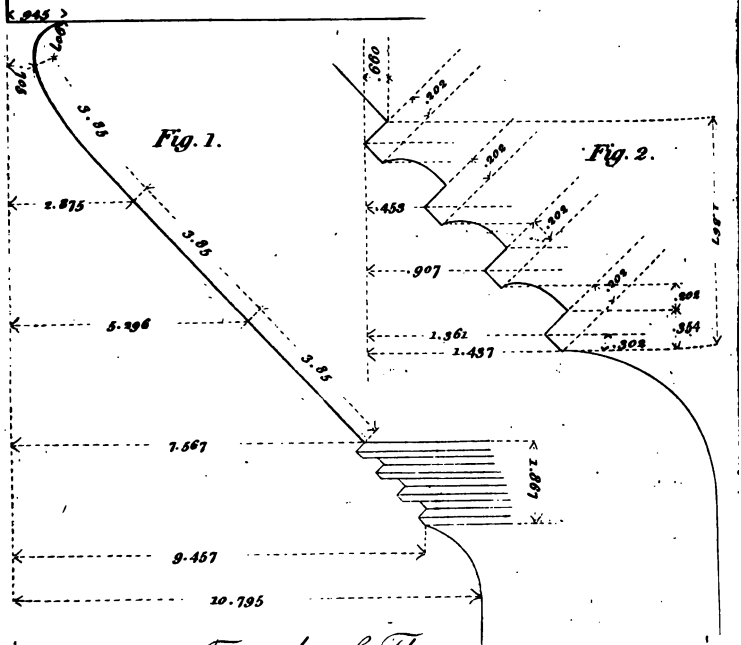
Doric Portico.





Temple of Theseus.

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PLATE XX.

OTHER PARTS AT LARGE OF THE FOREGOING, AND OF THE FOLLOWING EXAMPLES.

Fig. 1. Profile of the echinus of the capital of the mple of Theseus to a large scale: this moulding s well as that of the temple of Minerva is an yperbola, or the portion of one: the lower part om the greatest projection at the top to the bot-om, being one of the legs; the upper part forming he quirk or recess above, part of the other leg, and ie greatest projection the vertex. It is something ngular that the very ancient mouldings in Grecian apitals should be of this form, and some of them uite straight, from one end to the other, which may e considered as a section of the cone through the ertex.

Fig. 2. Annulets under the echinus of the capital the column. The reader may here observe that e annulets continue in the general form of the urve, *viz.* the recesses in the curve itself, and the tremities in a line parallel to that curve.

Fig. 3. Profile of the echinus of the capital of the *oric Portico*, as in the following plate; this mould-g is singular, being of an elliptical figure; it is ore than a quadrant. This portico was built while e government of Athens was in the hands of the omans, who were partial to mouldings of a uniform id bold curvature; the taste of the Grecians, it ap-ears, began to blend with that of their conquerors, ence I account for the elliptic form of this member;

it is a medium between an hyperbolical and a circular moulding.

Fig. 4. Part of the annulets of the capital of the same column, no less singular in their construction than the echinus, or other members of this example, being disposed vertically, and in the form of champhered rustics; whereas the annulets of other Grecian remains follow the contour of the echinus, as has been before observed.

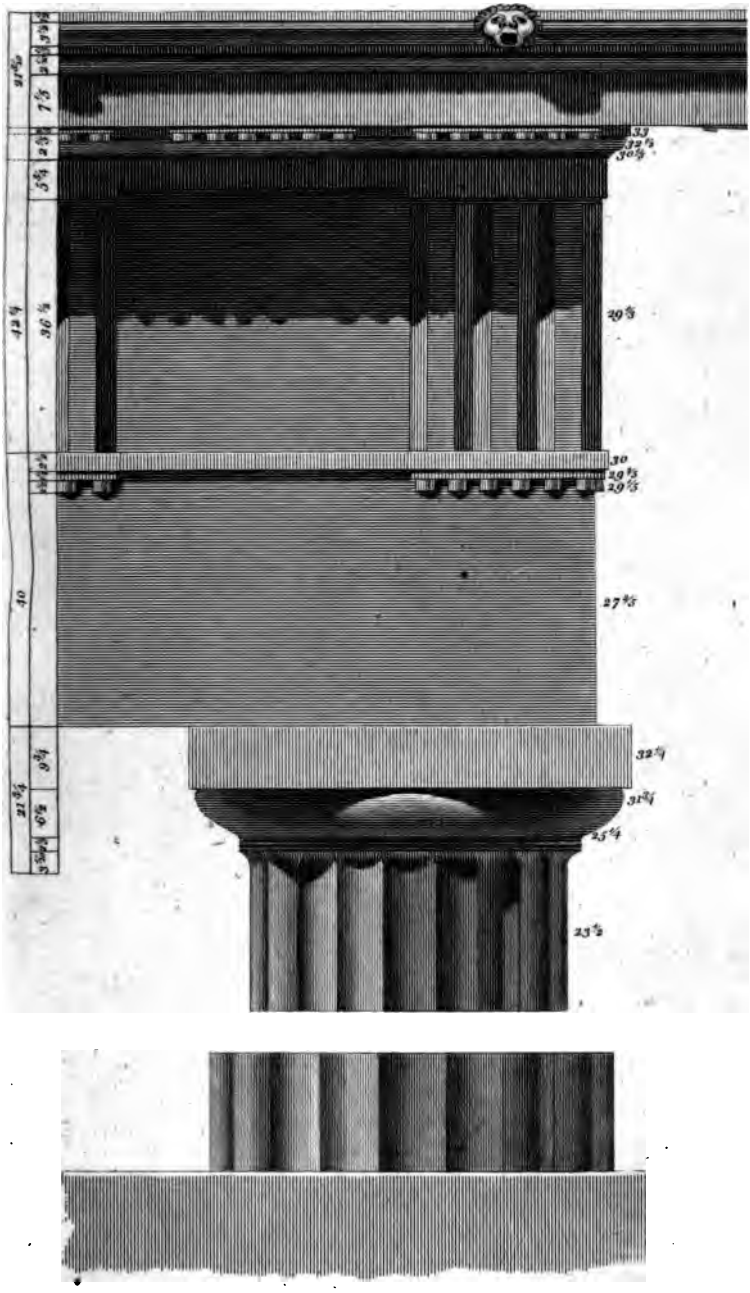
PLATE XXI.

FROM THE DORIC PORTICO AT ATHENS.

This plate exhibits the contour, the elevation, and proportions of the members in minutes and parts of a minute.—This example, although singular on account of its approach to the Roman style in the members, is in its general form the same as other Grecian examples.

As Mr. Stuart appears to have bestowed particular attention to the measures of these Doric examples, here shewn, I have, with considerable pains reduced the original measures of feet, inches, and decimals of an inch, by arithmetical calculations into minutes, and decimal parts of a minute, and not by measuring them from two scales which would have been more expeditious to me, but much less accurate: each minute is consequently divided into ten equal parts, each of these again into ten, and so on as long as division can be made.—By these universal proportions, the construction will be more easily obtained by students in general.

Grecian Doric Portico at Athens.



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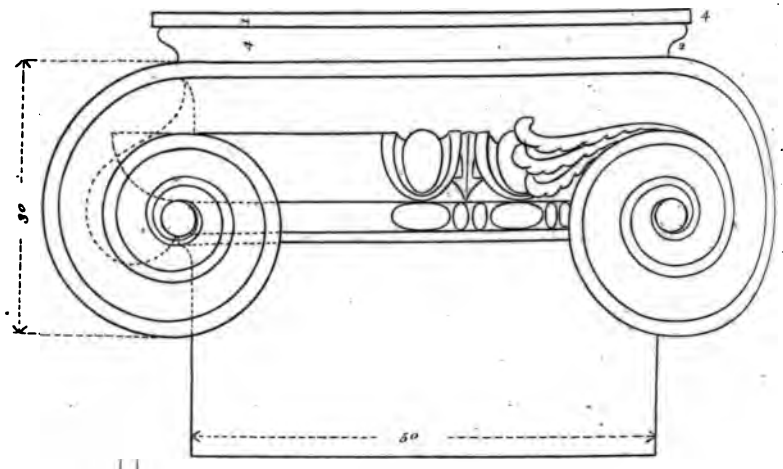
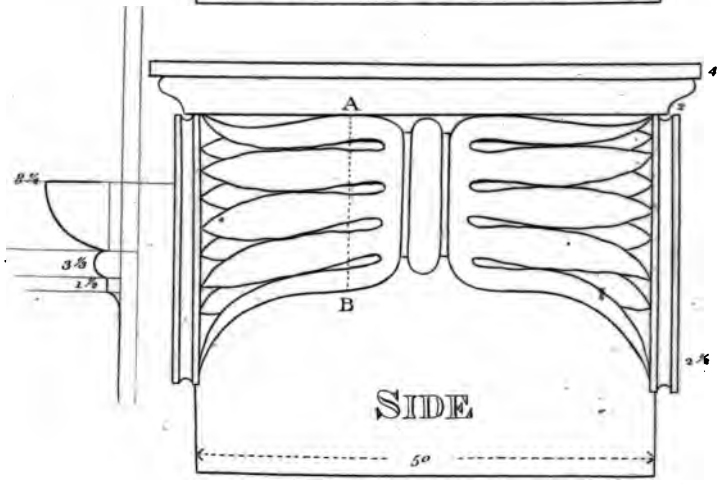
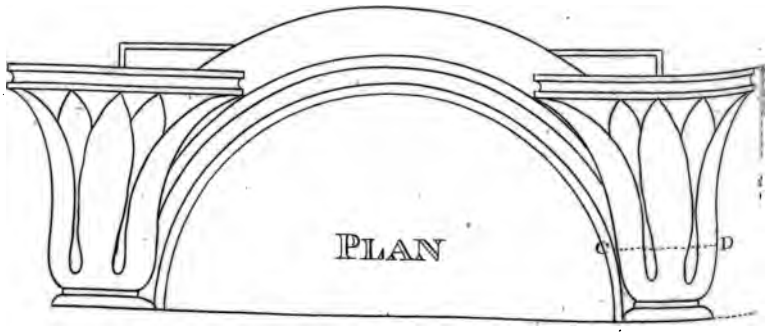
ROMAN IONIC



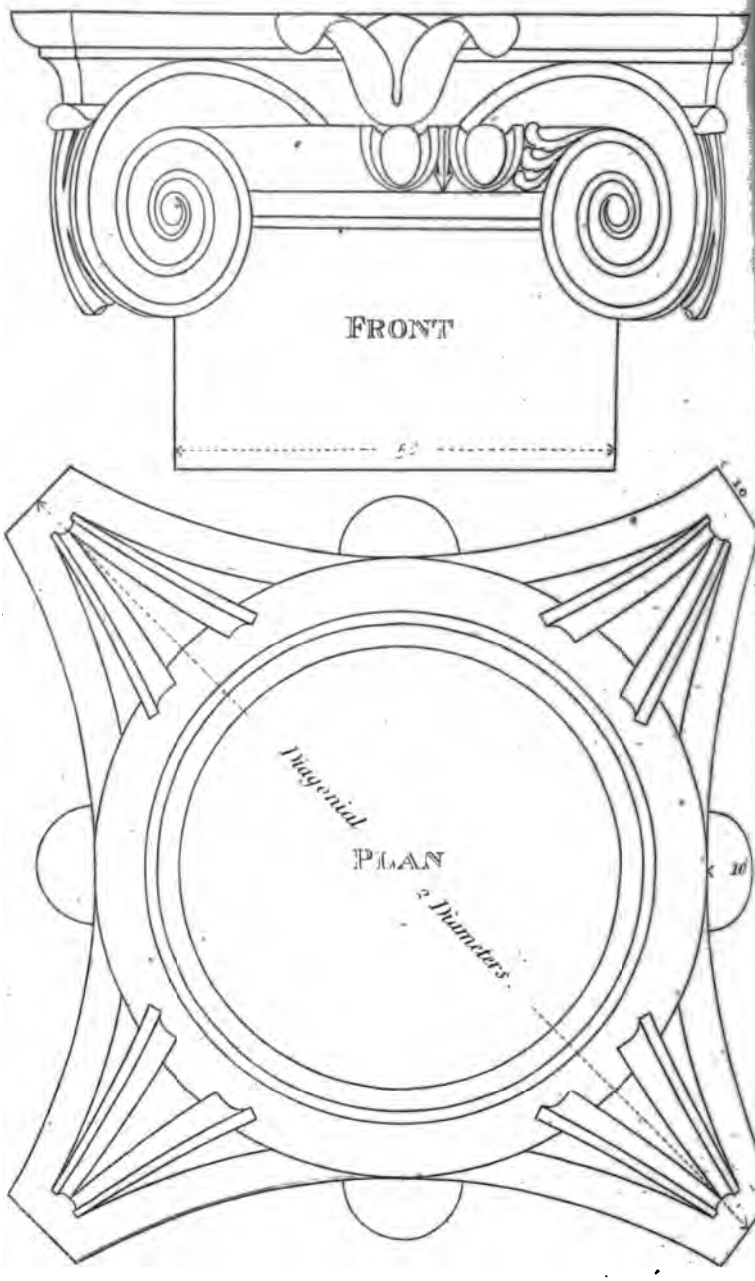


SIDE



PLAN

IONIC CAPITAL



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OF THE IONIC ORDER.

PLATE XXII.

Shews the front, side, and plan of the *Roman Ionic* capital. The whole height of the volute is twenty-eight minutes, the centre of the volute is sixteen minutes from the top side of the list; and is described as in Plate XXVIII.; the bead, or upper part of the astragal is equal in thickness and in height, to the eye of the volute; the height of the ovolo above, is from the upper side of the eye, to the upper side of the list in the second revolution; the projection of the cincture, or hollow under the fillet of the astragal, is equal to the height of the fillet; and the projection of the bead is a semicircle; for the ovolo, the quarter of a circle, whose projection is from the perpendicular line of the fillet. The dotted line upon the volute, is a section through the side at A B; or through the plan at C D; the ornamental part is drawn by hand.

PLATE XXIII.

The front and plan of the angular Ionic capital; the plan is inverted, that the mouldings underneath the abacus may be seen; the volutes in front are drawn according to Plate XXIX.; this sort of capital has an advantage over the others, it fronts each of its sides alike; which is not the case with the

Grecian capital, unless one of the angles is horned at the return of the building; which is unpleasing to some, and not considered as correct.

PLATE XXIV.

Is the Ionic order with dentils in the cornice on an attic base; the capital is in the Grecian taste; the manner of drawing the upper list is the same as described to Plate XXVIII. the under list is drawn by hand, the other parts are obvious to inspection.

PLATE XXV.

The Ionic order with modillions, and an angular capital; the measures of the parts are accurately figured; *Fig.* 1. is a section of the capital through the middle of the abacus, in order to shew the projection of the mouldings.

TO DRAW THE IONIC ORDER TO A GIVEN HEIGHT.

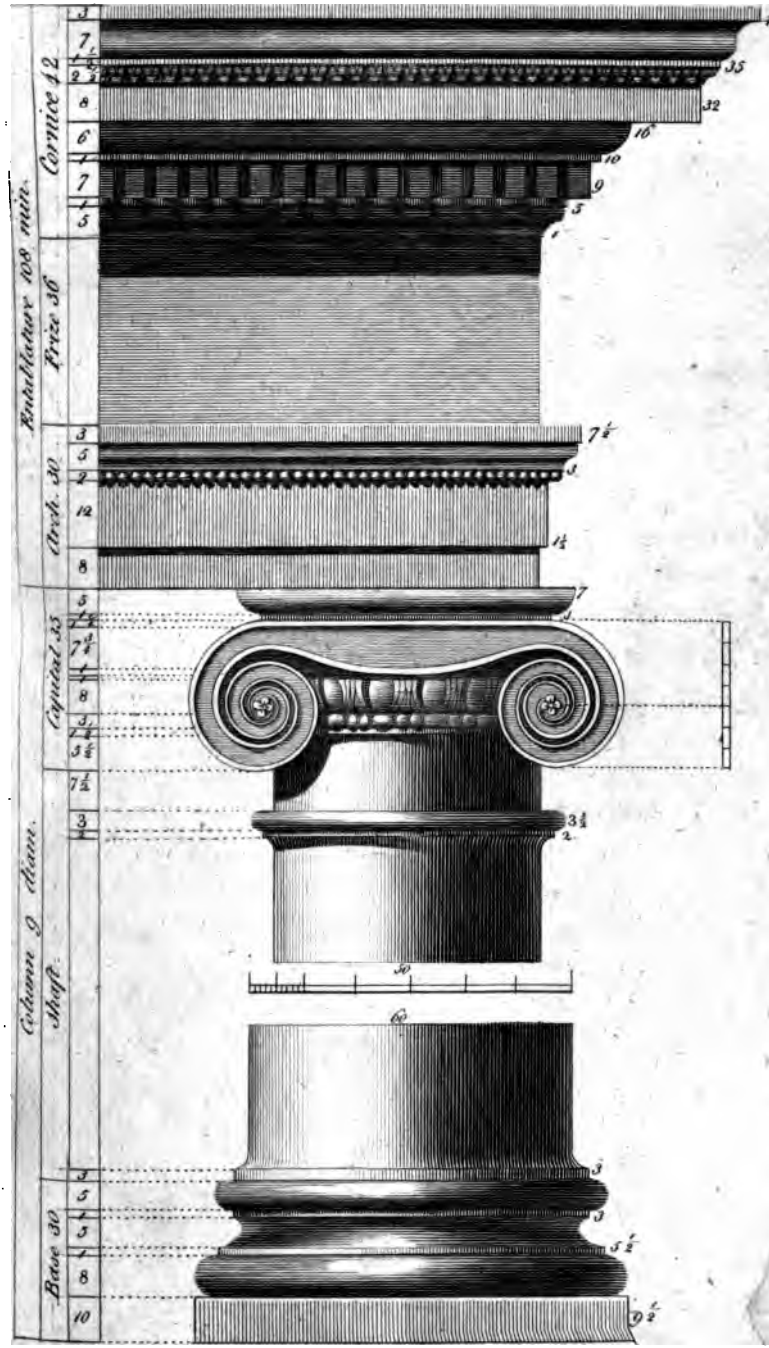
For the Column and Entablature.

Divide the whole height into six equal parts, give the upper one to the entablature, divide the lower five into nine parts, and one will give the diameter of the column, to be divided into sixty minutes as a scale to work or draw by.

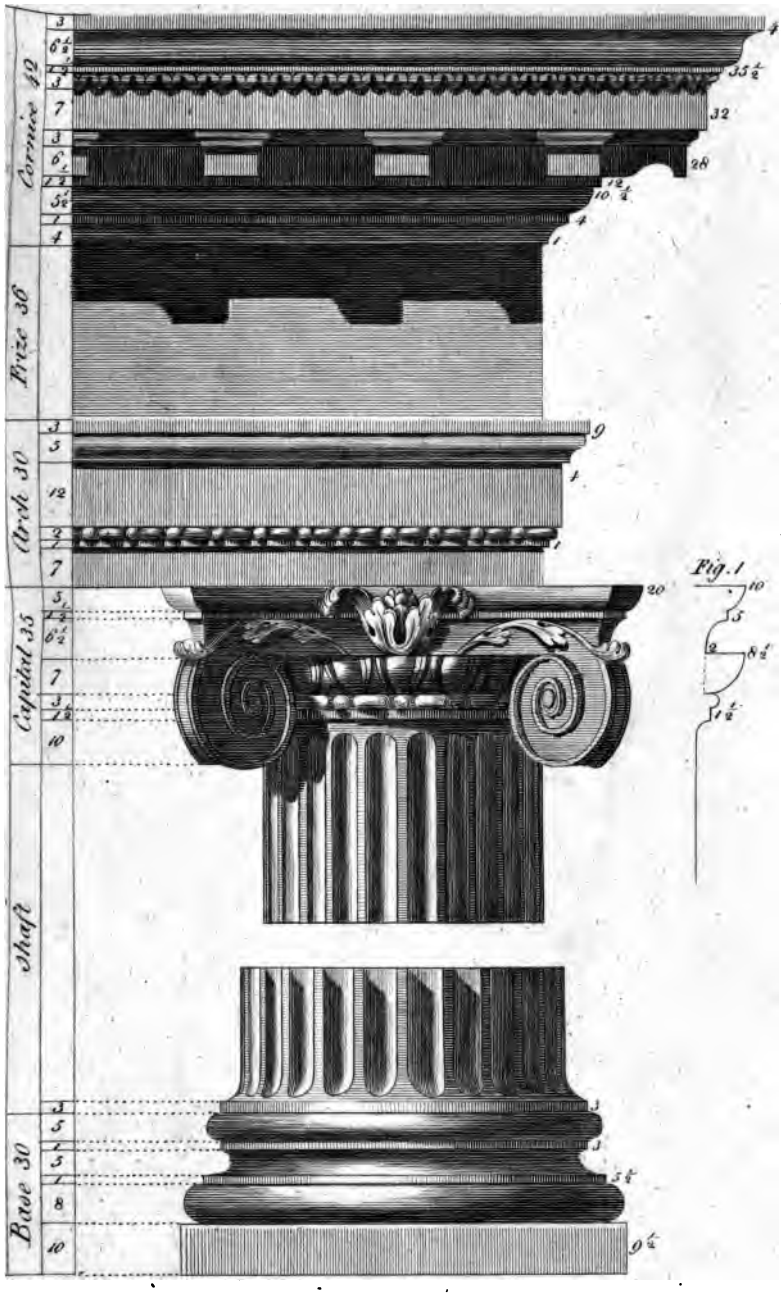
For the Column and Entablature on a Subplinth.

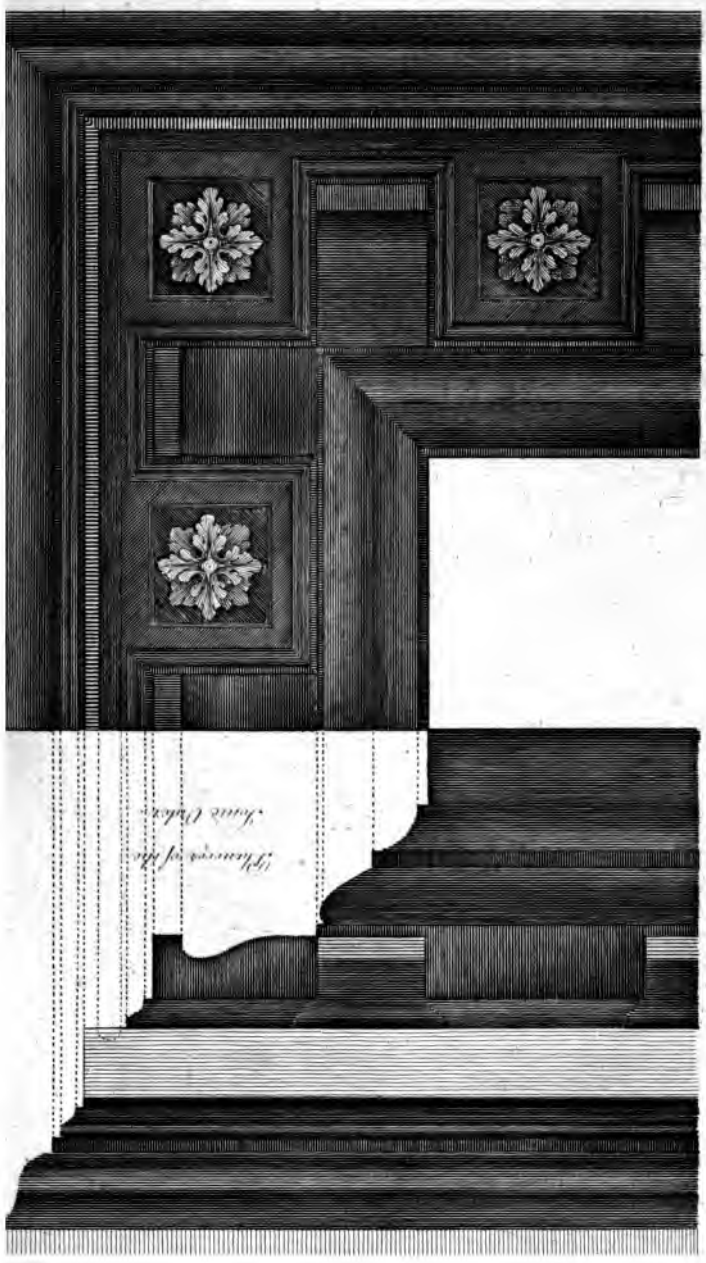
Divide the whole height into twelve equal parts, give the lower one to the subplinth, and proceed with the remaining eleven as above, and you will get the height of the entablature, and the diameter of the column.

Ionic Order

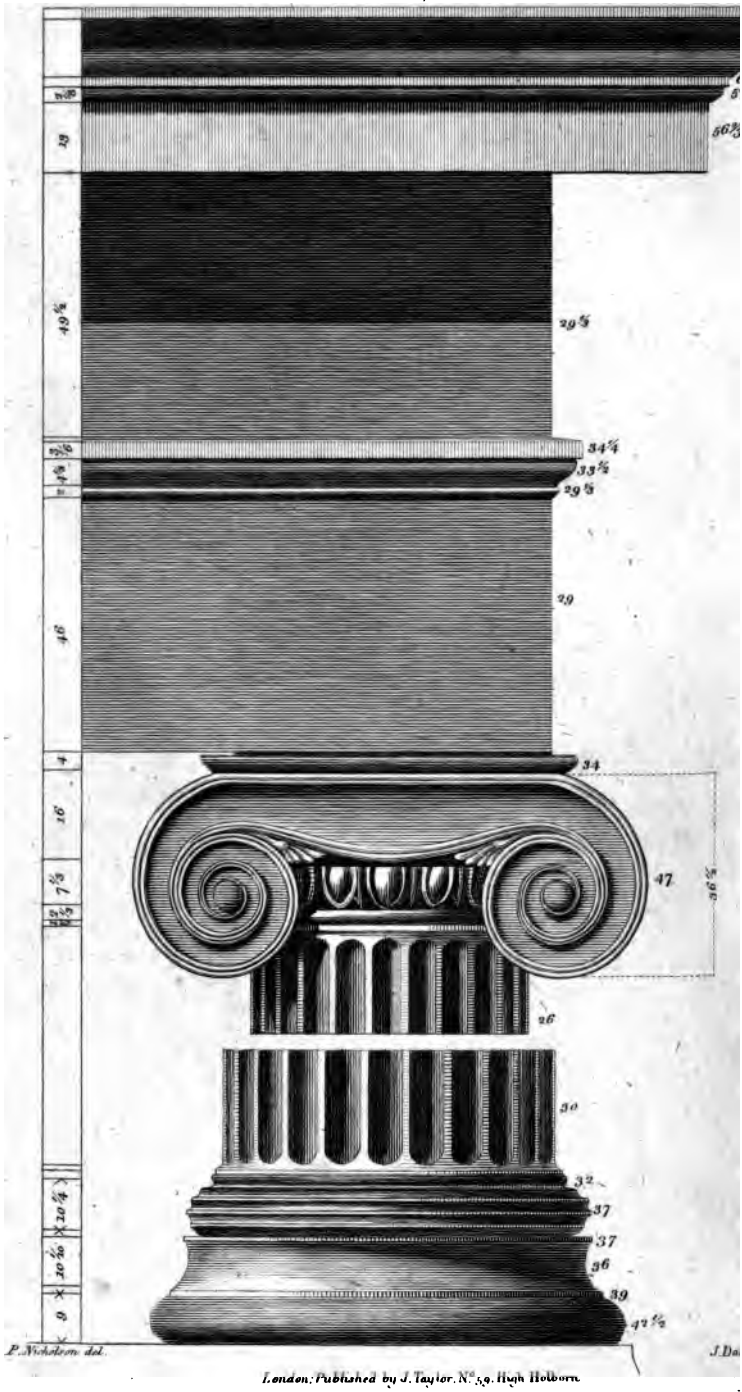

Entablature 108 min.
Cornice 42
Frize 36
Arch. 30
Capital 35
Shaft.
Column 9 Diam.
Base 30
42
35
32
16
10
9
5
7½
3¼
2
30
60
3
5½
9½

Modern Ionic.





Ionic_Temple at Athens.



For the Column, Entablature, and Pedestal.

The height of the pedestal, for this or any of the five orders, is always one fifth part of the entire height; then the height of the entablature, and diameter of the column, is found as before.

PLATE XXVI.

The Ionic cornice with the planceer inverted, shewing the finishings underneath the cornice.

PLATE XXVII.

FROM THE IONIC TEMPLE ON THE ILISSUS, AT ATHENS.

This elegant temple is entirely destroyed; not a fragment now remains: but the ingenious workman, from this book, may restore it with the greatest exactness.

This is a very fine example, uniting elegance with simplicity: the column is well proportioned in all its parts; the turnings of the spirals are gracefully formed, and the volutes which form the capital are bold, which give an appearance truly characteristic of this order. The members of the entablature are few, but their effect is clear and distinct, calculated for effect at a distance.

PLATE XXVIII.

TO DESCRIBE THE IONIC VOLUTE.

Divide the height P Q into seven equal parts, upon the third division describe a circle about C as a centre, whose diameter will be equal to one of the parts; draw the square V W X U, and in that square draw another, whose angles shall touch the sides of the former square in the middle. In order to make the construction of the centres appear plain, the centre part is shewn above of a larger size, and the same letters of reference put to each; divide C 1 and C 2 each into three equal parts at 9, 5; 10, and 6; divide C 10 into two equal parts at *x*, if the volute is intended to be on the right hand, as in this example; but if on the left, divide C 9 into two equal parts, and proceed in each case as follows: from *x* draw the perpendicular line, cutting the side S F of the square at D; from D make D E and D F equal to G 1 or G 2; join E H and F H, draw 5, 4... 9, 8... 10, 11, and 6, 7, parallel to the perpendicular side of the square, cutting E H, and F H, at 4, 8. 3. 7. 11; then 1... 2... 3... 4... 5... 6... 7... 8... 9... 10... 11... and 12, are the centres. Begin at 1, and with the radius 1 A, describe the quadrant A B, of the volute; on 2, with the radius 2 B, describe the quadrant B C; on 3, describe the quadrant C D; proceed in this manner with all the quadrants, till you touch the eye at U, and it will complete one side of the fillet.

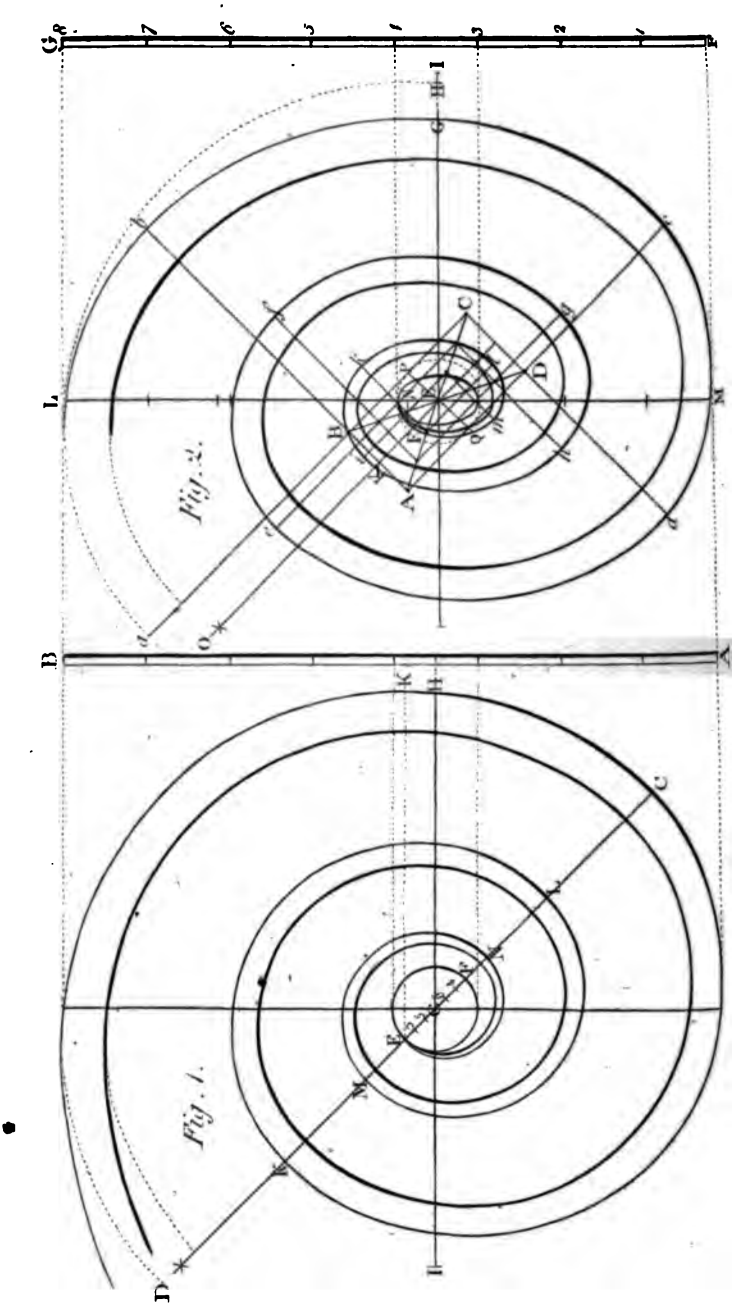


Fig. 2.
Fig. 1.

TO DRAW THE INSIDE OF THE FILLET.

Divide the thickness of the list A *a* at the top into elve equal parts, by means of the scale N, O, R, follows; begin at N, and with any opening of the mpass run it twelve times from N to O; draw R, making any angle with O N; make O R equal e thickness of the fillet at A *a*; join R N, draw 1, *b* 10, *c* 9, *d* 8, &c. parallel to R O; make the ckness of the list at B *b*, equal to *a* 11; and D *d*, ual to *b* 10, &c. at the beginning of every quadrant; n *a b* and bisect it by a perpendicular meeting the e a little within the first centre; set the same small tance within all the other centres, and proceed to scribe the inside of the list, in the same manner as e outside, and it will end in a point with the outle at U; and the volute will be completed.

PLATE XXIX.

TO DRAW AN ANGULAR VOLUTE.

Divide the perpendicular height A B, as in *Fig.* 1. o twenty-three equal parts; take the centre G, 1 divisions from the bottom, or thirteen from the), through the centre G draw H I perpendicular A B; bisect the angle B, G, I by the diagonal e D, C; through the first division K above H, on e line A B, draw K E parallel to H I, cutting the e D C at E, on G as a centre, with a radius G E, scribe a circle cutting D C on the opposite side of e centre at F; divide F E into six equal parts at

3, 5, G, 6, 4, F, then on E as a centre with a radius E B describe an arc B C cutting D C at C, on F with a radius F C describe the semicircle C, A, K, cutting C D at K, on 3 with a distance 3 K describe a semicircle K L, on 4 as a centre with the radius 4 L describe a semicircle L M, on 5 as a centre with a radius 5 M describe a semicircle M N; lastly on C with a radius 6 N, describe a semicircle N E, touching the centre at E, then figure I will be completed. This method will describe an elliptical volute to a given height, but not to any given width, this is only a preparation to what follows.

TO DESCRIBE AN ELLIPTICAL VOLUTE TO ANY GIVEN HEIGHT AND PROJECION FROM THE CENTRE.

Fig. 2. Divide the given height L M into twenty-three equal parts as before, taking the centre E ten from the bottom, or thirteen from the top; through N the first division above E draw N F, cutting the diagonal line E O at F, on E as a centre, with a radius E F, describe the dotted circle; or through E draw P Q at right angles to the diagonal line O E, make E P and E Q each equal E F, on F as a centre with the distance L F, describe an arc L H, cutting E H at right angles to L M at H, from E make E G equal to the distance the projection of the volute is intended to be from the centre, divide G H into six equal parts, and set one of the parts to I; make E K and E R each equal to the sum of the two lines E F and G I, through the points K, P, R, Q, complete the parallelogram A B, C D, whose sides A B, D C,

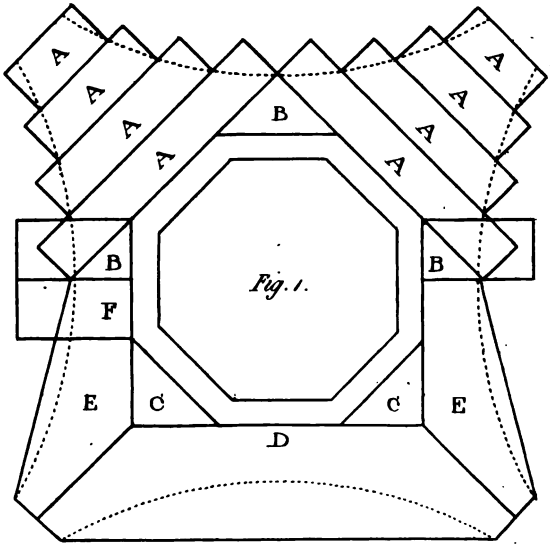


Fig. 1.

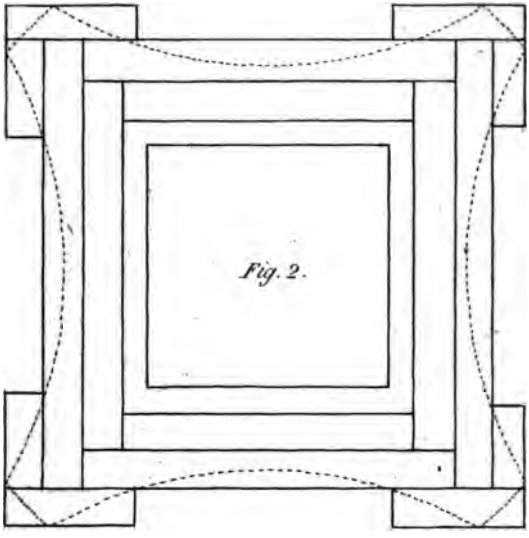


Fig. 2.

are parallel to P Q and A D, B C parallel to K R, draw the diagonals A C and B D, and divide each of them into six equal parts, then on B as a centre, with the radius B L describe the arc L *b*, cutting A B produced at *b*, on A as a centre with the radius A *b*, describe the arc *b c*, cutting A D produced at *c*, on D as a centre with the radius D *c*, describe an arc *c d*, cutting C D produced at *d*, on C as a centre with a radius C *d*, describe an arc *d e*, on *5* as a centre with a radius *5 e*, describe an arc *e f*, on 6 as a centre with the radius 6 *f*, describe an arc *f g*, on 7 as a centre with the radius 7 *g*, describe an arc *g h*, on 8 as a centre with the radius 8 *h* describe an arc *h i*, proceed in this manner, beginning the third revolution at 9, till you end at 12; lastly describe an ellipsis touching the last centre of the third revolution E, being its centre, and its transverse and conjugate axis being in the same ratio as the length or height of the volute is to its width, and it will be finished.

PLATE XXX.

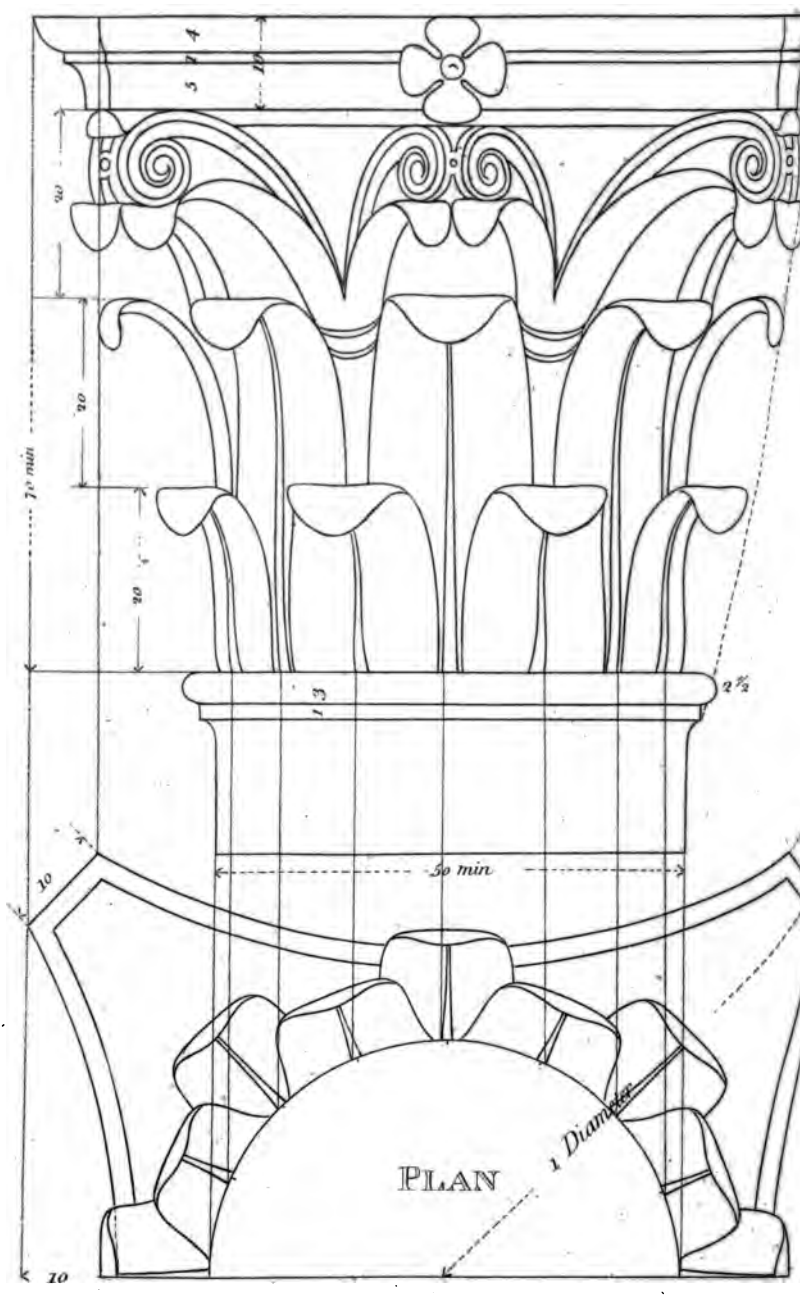
THE MANNER OF GLUEING UP THE IONIC CAPITAL.

Fig. 1. for a column; the parts marked B, B, &c. are triangular blocks of wood, glued upon the front, in order to complete the angular square; then the pieces A A A, &c. are glued upon them; this is one method of glueing up the capital.

Another method is, to glue the triangular blocks C C, at the angle of the abacus; then the four sides of the abacus as D E E, may be made of one entire length, and mitred at the horns; or they may have a joint in the middle of the abacus, where the rose comes, as the workman shall think fit; this will either do for a column or pilaster.

Fig. 2. is a manner of glueing up the abacus for a pilaster capital; but in my opinion, it is far from being a complete method, for when all the superfluous wood is worked off, the joints at the horn will be in various directions, and the end of the wood butting against the grain never holds fast.

CORINTHIAN CAPITAL



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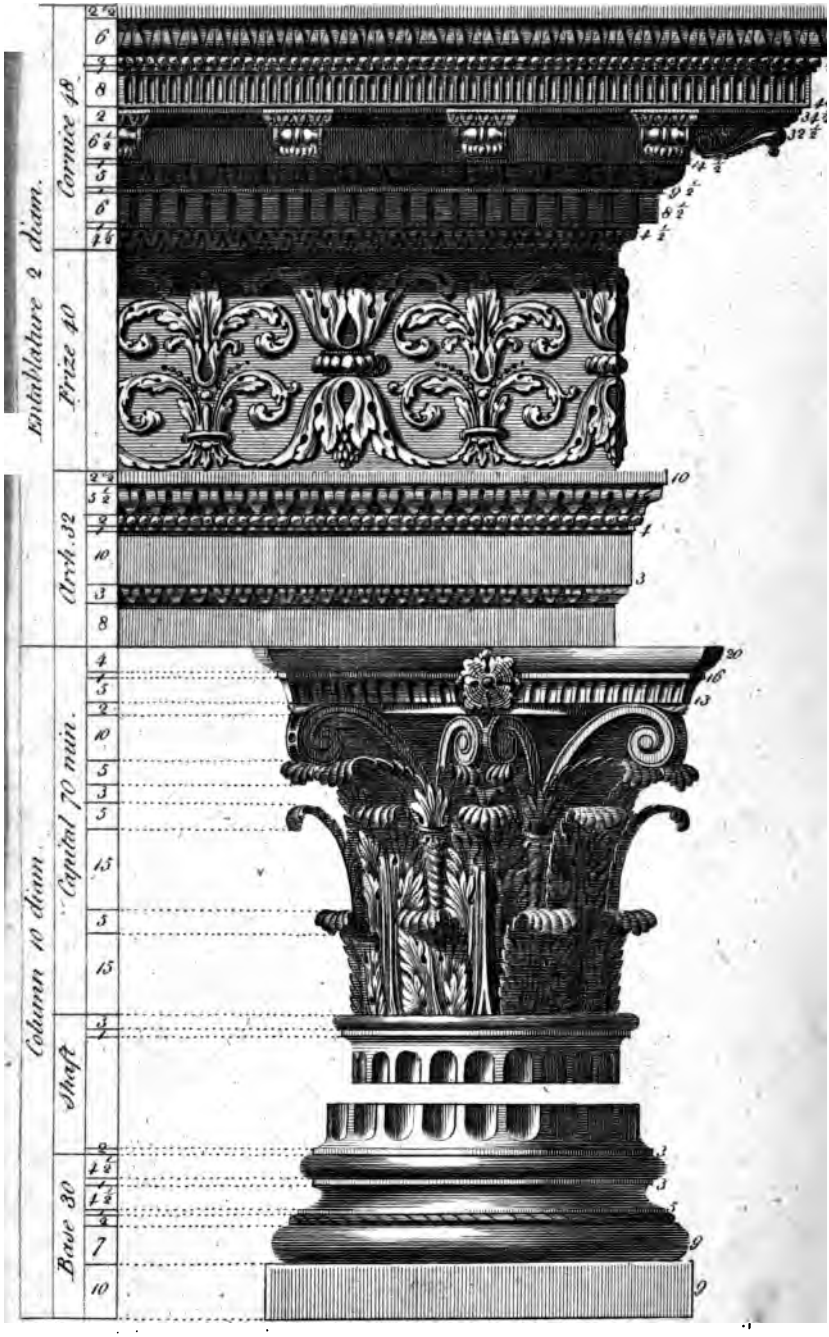
Corinthian Order



OF THE CORINTHIAN ORDER.

PLATE XXXI.

Is the Corinthian capital and plan in outline for the sake of clearness; to find the places of the stems of the leaves, divide the semi-plan into eight equal parts, and draw the plan of the leaves, with their stems; from the side of each stem draw the perpendicular lines to the elevation of the capital, and it will give the breadth of each stem on the front, the projection of the tops of the leaves, is from a line joining the top of the abacus and the astragal at the bottom of the capital, the heights of the leaves are shewn in Plate XXXII. the out-line of the leaves are drawn by hand; observe, that these out-lines are supposed to be only in black-lead pencil, preparatory to shading and finishing them, as shewn in Plate XXXII.

PLATE XXXII.

Is the Corinthian order fully enriched with ornaments, which may be executed with the order or not, according to the place it is intended for; before the student begins to draw this order, he ought to be well acquainted with drawing the various kinds of ornament and foliage, otherwise he never will produce a masterly performance, or be able to make any considerable figure in drawing so elegant a subject.

PLATE XXXIII.

The Corinthian cornice, with the planceer inverted. The height and projections of the cornice are the same as in Plate XXXII.

PLATE XXXIV.

Is the manner of drawing the Corinthian column with an entablature entire; or the column and entablature on a pedestal; or upon a subplinth. The diameter of the column is one tenth part of its height; the height of the entablature, and pedestal, are found in the same manner as in the Ionic order; that is, the height A B, *Fig.* 1. is divided into six equal parts, the upper one is for the height of the entablature; one half of which, will of course be the diameter of the column. The rods C D, and E F, shew the methods of setting off the order when it is to be executed on a pedestal, or on a subplinth; the pedestal takes one fifth of the entire order, the subplinth one twelfth. The diameter of the column is one tenth of its height.

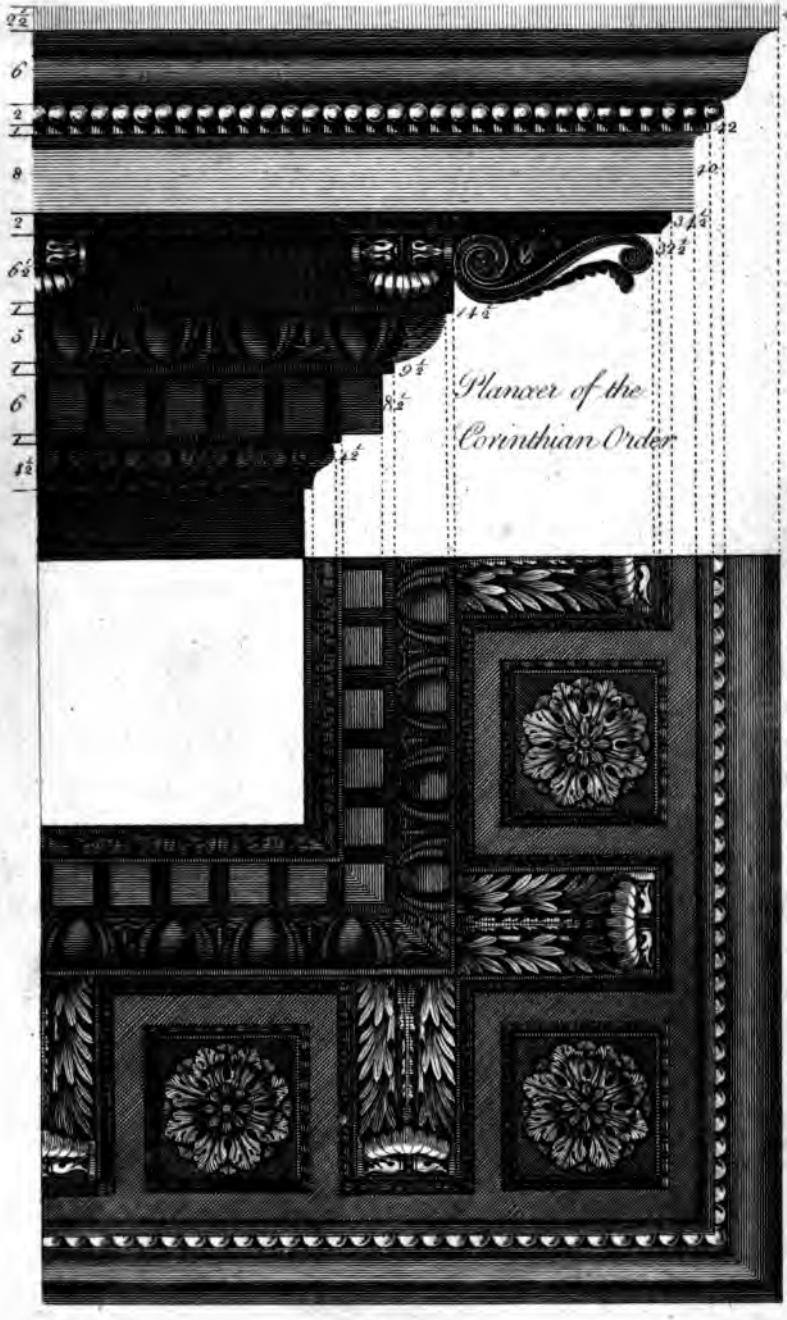


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Fig. 1.

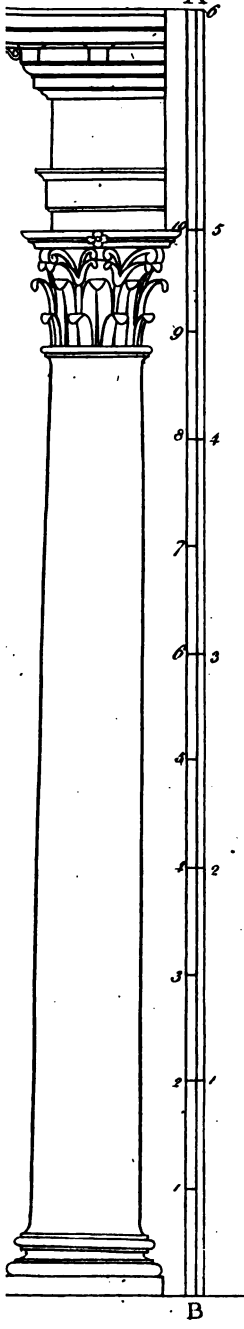
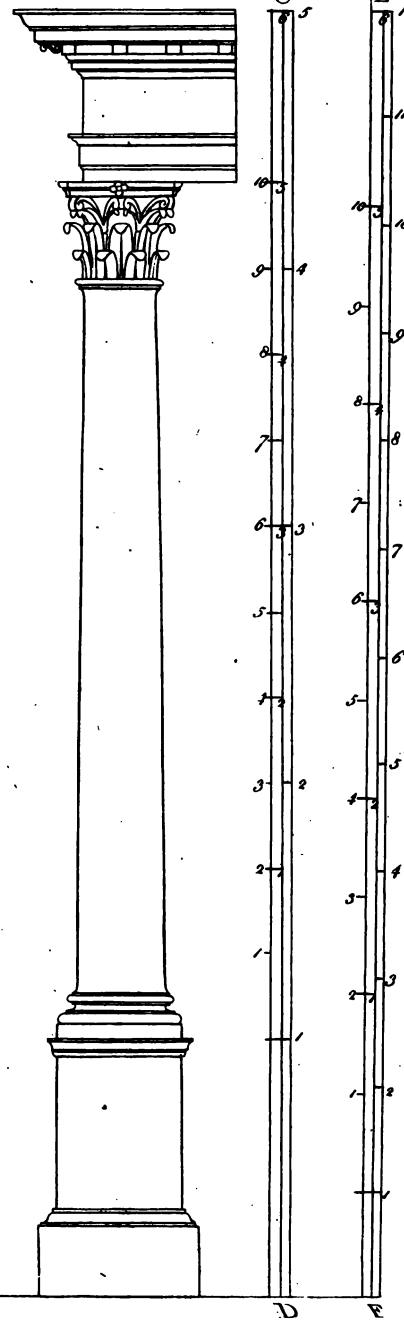


Fig. 2.



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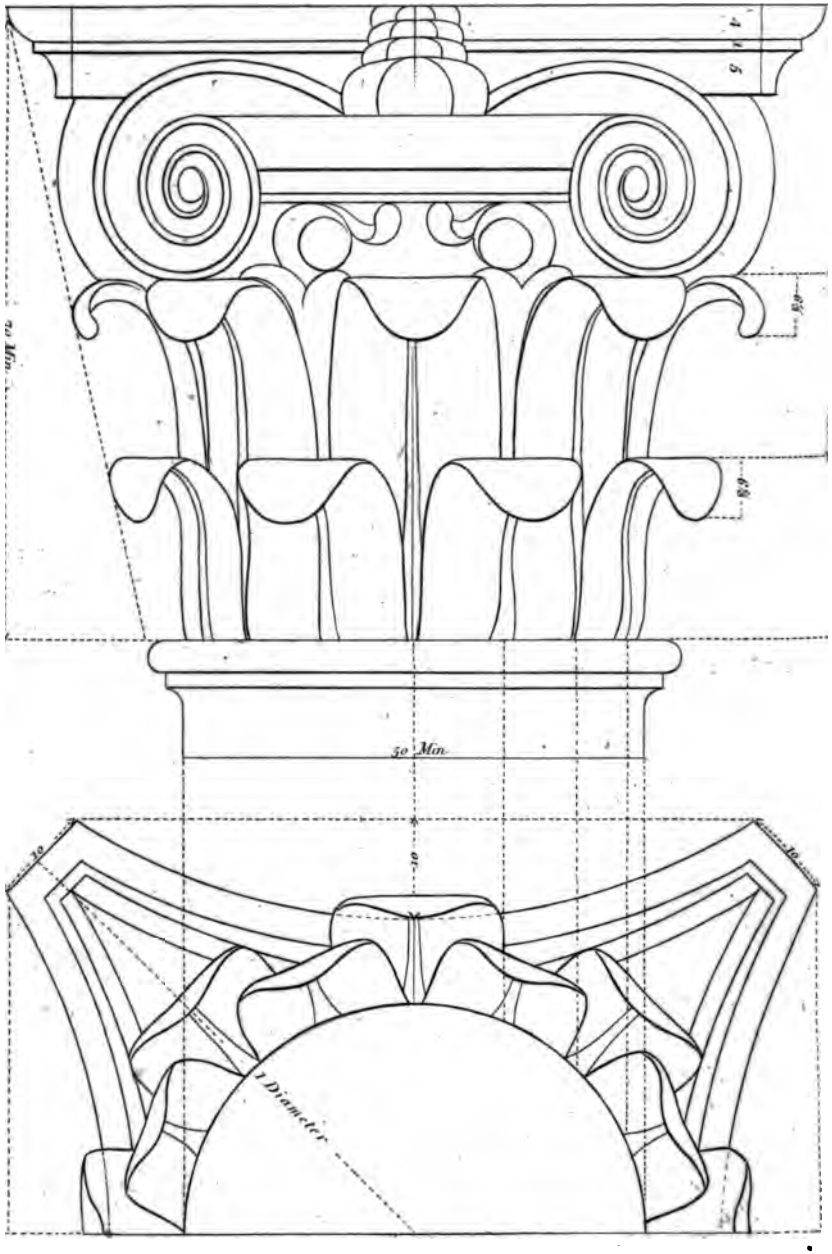
Composite Capital.



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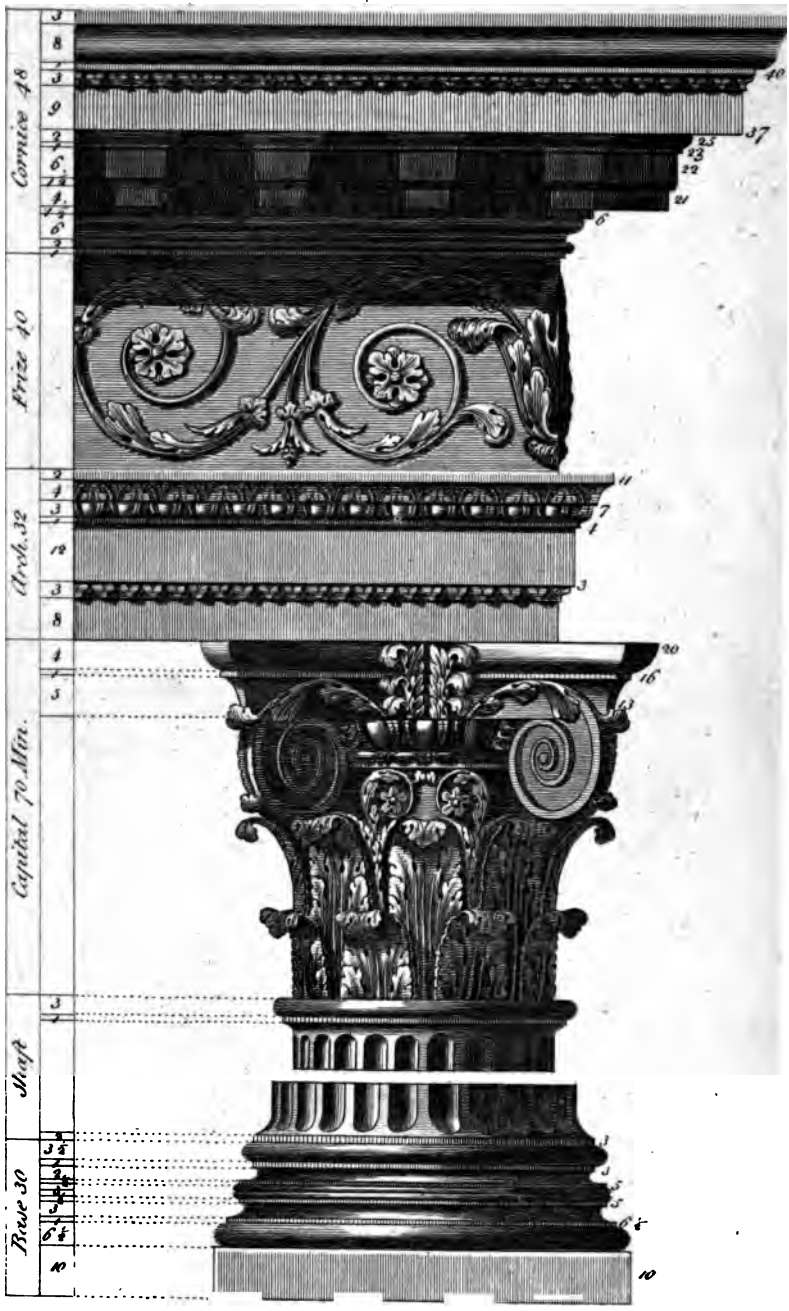
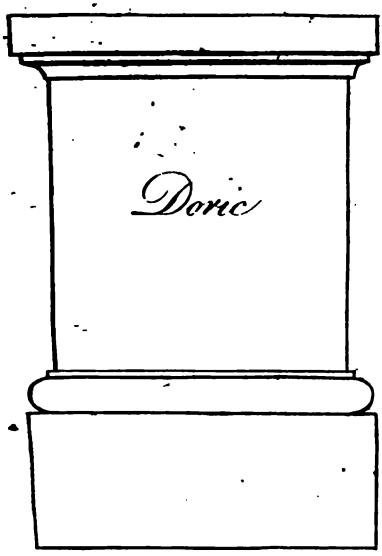
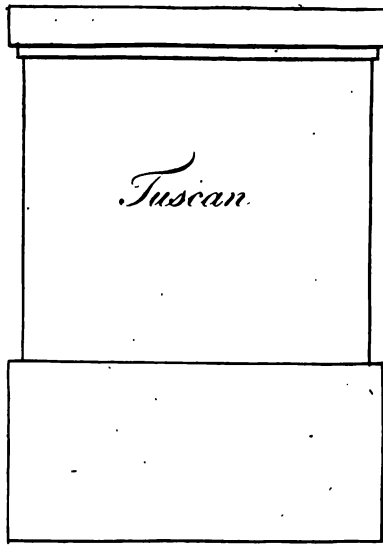
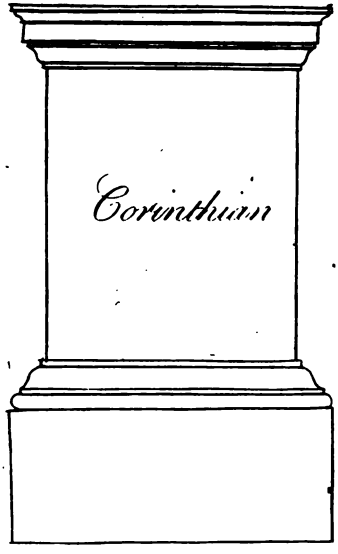
Composite Order.

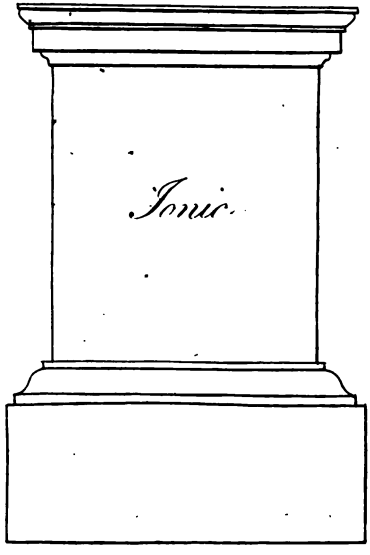


PEDESTALS *for four of the* ORDERS.









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OF THE COMPOSITE ORDER.

PLATE XXXV.

General outline of the Composite capital, shewing the manner of projecting the same.—See the description of Plate XXXI.

PLATE XXXVI.

Is the Composite order, so named because of its capital; the upper part being the same as the Ionic angular capital, and the lower part for leaves, the same as the Corinthian; the general heights of the cornice, frize, architrave, capital, shaft, and base, are the same as those of the Corinthian; the diameter of the column is one tenth part of its height, as in the Corinthian; the heights and projections of the members are plain by the measures on the plate.

PLATE XXXVII.

Are pedestals for four of the orders. It has been already mentioned, that the pedestal of every order is one fifth of its entire height; the die of the pedestal, or plain part, is in breadth equal to the plinth of the base of the column.

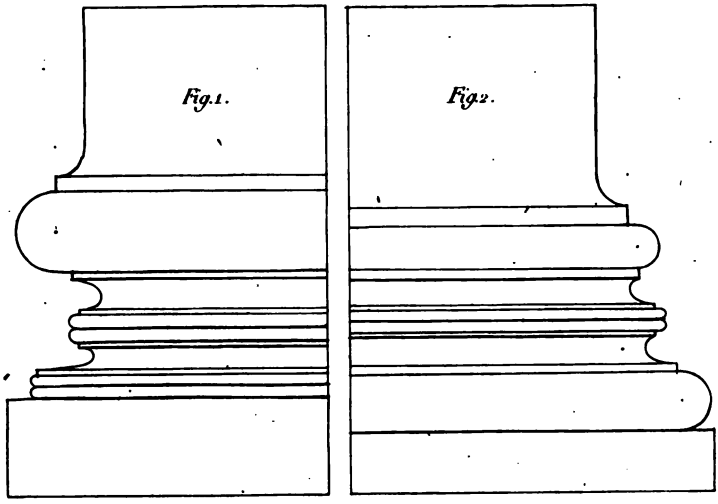
PLATE XXXVIII.

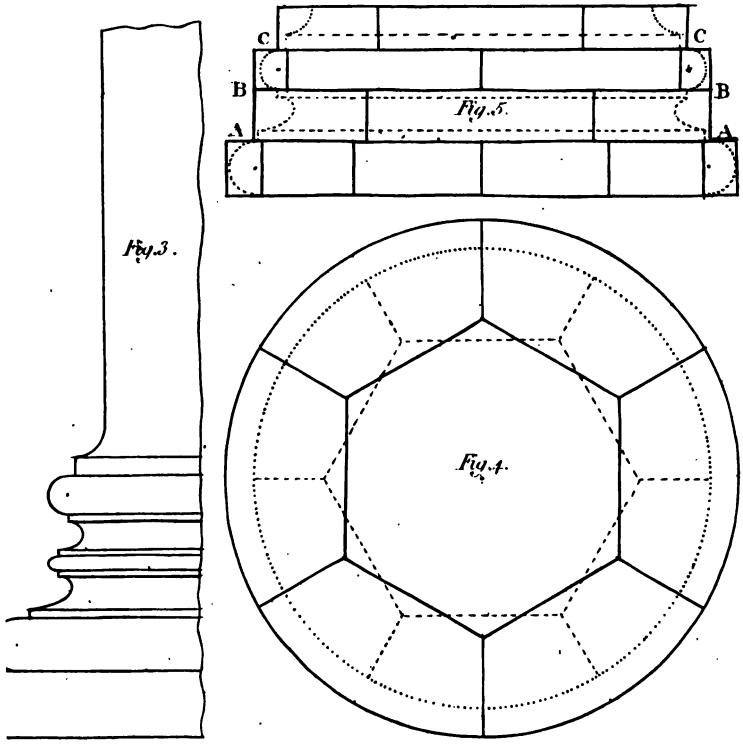
OF BASES.

To each order there is a particular kind of base. A Tuscan base is shewn to Plate IX. and X. To the Doric there is no particular base, but the Attic base is proper to be used as shewn on Plate XIII. The Ionic base is of a clumsy appearance, and is very rarely used, *Fig.* 1. Plate XXXVIII. The Corinthian base is very elegant, as is shewn by *Fig.* 2. The Composite base is *Fig.* 3. The Attic base (Plate XIII. and XXIV.) is most frequently used, and is applicable to all the orders, except the Tuscan.

METHOD FOR GLUEING UP OF BASES.

Fig. 4. is a plan shewing how the bottom course is mitred together; which must be done on a flat board, and all the joints fitted as close as possible: this course being glued together with care, and well blocked in the inside at the angles, and the glue being thoroughly dry, plane the top of the course quite smooth, and out of winding; then glue on the next course, breaking the joint in the middle of the under course, as shewn by the dotted lines, and so on, for as many courses as are wanted: when thoroughly dry it may be sent to the turner. The bedding joints may be on one side of a fillet, as shewn in the elevation, *Fig.* 5. A A, B B, C C; a base glued up in this manner will be the strongest possible, and be less liable to crack and split, than by any other method I have seen practised.





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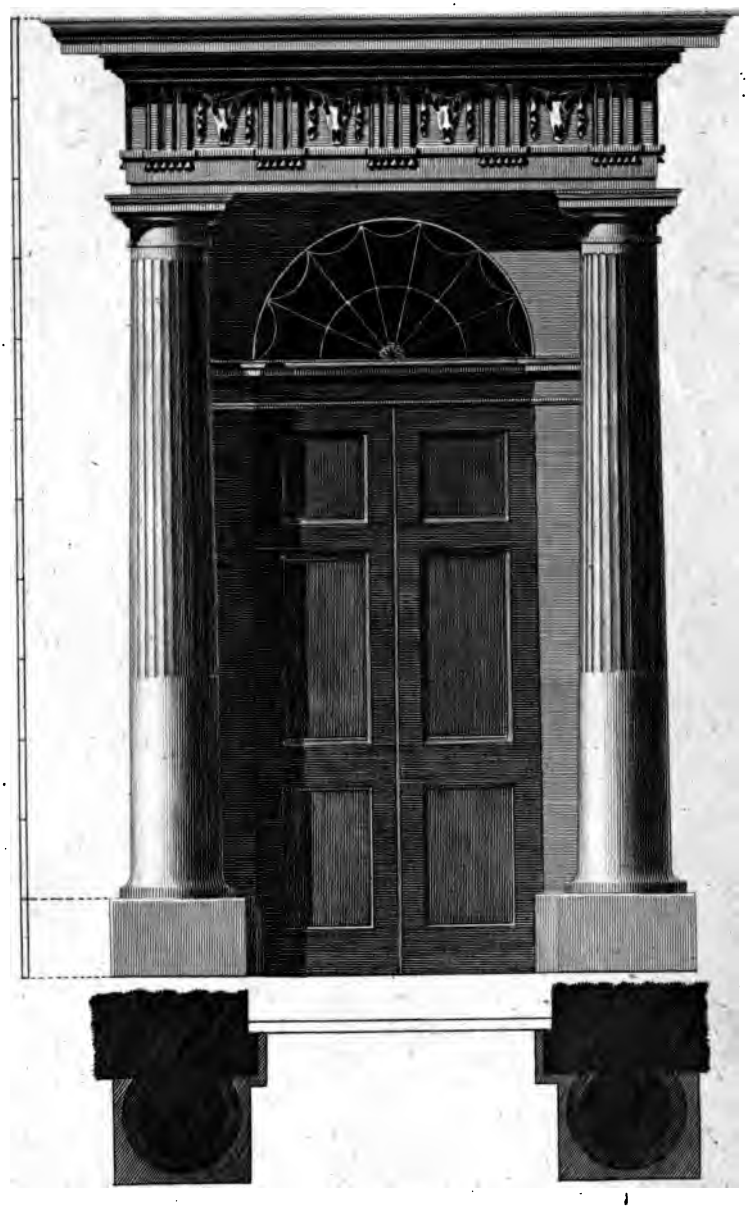
Door.

Doric Door.



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Ionic Door.

P. Nicholson del. J. Dudley sculp.

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DESIGNS FOR DOOR CASES.

Plate XXXIX. Is a design for a door case of the Tuscan order.

Plate XL. Is a design for a door case of the Doric order.

Plate XLI. Door way and portico from the Ionic Temple on the Illissus, (see Plate XXVII.) That doors of this construction were used by the ancients is evident from the example of the Tower of the Winds, as shewn by Stuart, in *The Antiquities of Athens*, vol. i.

The above are proper examples to draw from, and will give some useful ideas for composition and combinations of the orders, and their parts, and will look well if executed.

FINIS.

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